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The impact of lending on economic growth, the case of Albania

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Abstract. Lending is an important element for the economy of a country. Credit leads to an increase in spending, thus increasing revenue levels in the economy. This revenue growth brings a higher GDP (gross domestic product) and thus increases productivity. This paper aims to analyze whether there is a correlation between private sector credit and economic growth for the period 1996-2021 in the case of Albania using econometric models. We have to say that credit is one of the important elements of the financial system. Financial development over the years has brought a variety of products offered by the banking sector. But we must remember that lending, which is one of the main elements of this system, was one of the factors that caused the global crisis in 2008-2011. Hence, this study aims to discern whether lending has positively impacted the Albanian economy or not, considering its potential negative effects. It is a widely held belief that the absence of credit prevents a country's economic development, and this paper seeks to determine the accuracy of this claim. Due to the negative impact of credits on the economy in this paper we intend to survey how the loan has really affected the Albanian economy.
Keywords. Bank lending; Financial development; Economic growth.
JEL. E43; E51; G38.

1. Introduction

Albania like other countries that changed their regimes from centralized economies to the market economy, faced several economic, political and social changes and challenges since the 1990s.We know that the financial system for the most part consists of banks, while other financial institutions play a negligible role. According to Cottarelli *et al.* (2005), in his study of the banking system in Central and Eastern Europe, it was stated that Central and Eastern European and Balkan Banking Systems went through three phases during that period: (i) the recognition that a large share of the loans extended by public banks, mostly to state enterprises, had to be written off, and the shift to the government of the related loss; (ii) the sale of banks, primarily to foreign investors; and (iii) the beginning of more standard banking operations, including increased lending to truly private enterprises.

A characteristic of the first years of transition was that banks operating at that time in Albania maintained high levels of cash and began to see short-term investment in government securities as the best and safest form of

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investment. Several factors such as the uncertainty of contract enforcement, the lack of information about potential borrowers, and the difficult economic situation that he had in those years did all together to have no lending.

The impact of lending on economic growth has been the focus of many authors. Most researchers have agreed that there is a relationship between bank lending and economic growth. In his paper, Robinson (1952) argues that economic growth encourages banks to finance enterprises. While Gurley & Shaw (1969) also argued that as the economy expands and grows, the growing demand for financial services stimulates banks to provide more lending. Similarly, Oluitan (2012) thinks that policymakers should focus less on measures that lead to increased banking lending and focus more on legal, regulatory, and policy reforms that foster the functioning of markets and banks. Schumpeter (1934) believed that banking lending is a real means of achieving economic growth and development. Schumpeter strongly believed that the efficient allocation of savings through the identification and financing of entrepreneurs investing such funds in innovation and the production of goods and services makes economic growth possible. The two authors Kar & Eric (2000) also in their study on Turkey concluded that economic growth leads to the development of the financial sector. This view was supported by other scholars such as McKinnon (1973), Fry (1988), and Greenwood & Jovanic (1990). Levine (1990) conducted a study that included seventy-seven developed and developing countries using the regression of inter-country growth. The purpose of the study was to find out the correlation between bank lending, capital accumulation, economic growth, and efficiency. The study's result showed that banking lending led to economic growth and efficiency. Similarly, Diego (2003) came up with similar results from his fifteenth EU economics survey using panel evaluation techniques to assess the mechanisms through which policy changes have an impact on countries' economic growth. In the same conclusion, the IMF 2008 Financial Stability Report showed a statistically significant impact of credit growth on GDP growth. Habibullah and Eng (2006) carried out testing of causality testing in 13 Asian developing countries and found that banking lending encourages economic growth.

Several studies have been prepared for Albania that deal with different aspects of lending but have had a somewhat different focus than that of the study. Vika (2009) through the Generalized Method of Moments (MPM) identifies several factors that affect total loans of the private sector and loans (for the period 2004-2006), finding a positive correlation of the dependent variable on the nominal effective exchange rate, GDP, liquidity of the banking sector and the term of interaction between the monetary and liquidity indicators. On the other hand, it concluded that the relationship is negative with the rate of repurchase agreements (REPO), the size of banks, and the term of interaction between the monetary policy indicators and the size of the banks. Kalluci (2012) identifies an equilibrium level of lending to the Albanian economy, starting from an etalon of 52 developed and developing countries. Comparisons with these countries show that Albania remains below the potential lending level, but the gap is narrowing. On the other hand, when it serves as the etalon of the panel of developed countries, the gap between the current and potential level of lending is even greater. Suljoti & Hashorva (2012) empirically estimate the relationship between house prices and mortgage loans in the period 1998-2010. These factors positively affect each other mutually. Also, mortgage loans are positively correlated with income and

negatively with interest rates. Meanwhile, in lending, a positive impact is given by economic growth, the performance of financing sources (deposits), and external borrowing of the banking system. At the end of the review of the literature, we can say with a brief summary that in general different authors have come to the same conclusions, although through studies carried out in different countries and with differentiated methods. What is expected at the end of this paper is precisely a positive impact of lending on economic growth, a conclusion that goes alongside the results of many of the above-mentioned authors.

2. Methodology

The analysis of the paper focuses on the impact of lending on the economy. In this study, this model explains independent and dependent variables and controllers. The following model is used in this study:

$$RGDP = \alpha + \beta_1 BP + \beta_2 IR + \beta_3 GC + \beta_4 IGDP + \beta_5 INF + \varepsilon$$

where:

RGDP = Domestic Real Domestic Production which is a dependent variable.
α = Intercept
β, shows the coefficients.
BP is a private sector bank loan, which is an independent variable.
IR is the interest rate / bank rate for Private sector lending.
INF is Inflation / Change in the Consumer Price Index.
IGDP is an investment in GDP and GC is government consumption to GDP.

all of which are controlling variables.

In the analysis conducted by different authors, it is noted that they are focused on the effect of lending to the private sector on the level of production and investment, without distinguishing whether it is a loan for individuals or businesses. Individuals are those who are looking for financial institutions to finance their investments in the production or consumption of durable goods, and to manage their savings. Financing consumption through lending is a key macroeconomic element of demand. If we analyze government consumption, it results that it consists of two main components: final goods costs in the country of origin and salaries. Government consumption is calculated to GDP, for example, daily health and education costs are accounted for as government consumption. Construction of new hospitals is a government investment, while old-age pensions are a transfer fee. An increase in government spending on final goods in the country of origin leads to compensating effects on domestic production, consumption, and inner private investment. Cavallo (2005) argues that positive shocks to the government's spending on final goods produce a significant deterioration in the current account balance of the country of origin and accordingly an increase in the net external debt. According to him, the worsening of the current account in the country of origin seems closely related to the increase in government consumption spending. It should also be said that government spending reduces savings in the economy, thus increasing interest rates. This can lead to less investment in areas such as housing construction and manufacturing capacity, which

includes the equipment and infrastructure used to contribute to the production of the economy.

The above noted that government consumption, although not directly, was a significant factor in the country's investments. It should be added that an important variable such as investments is also affected by private sector lending. The phenomenon of credit restriction and its implications for decisions on firm investments is an important issue. Credit may positively or negatively impact the economic activity of a country as it affects capital accumulation. At the production level, the loan provides long-term capital for investors seeking to be involved in new investments or wanting to expand their business. At the same time, the loan provides short-term capital to finance the needs of real-time transactions. The role of financial intermediaries, who institutionalize savings and investments is clear, result that we pointed out at the beginning of the paper's work on the financial system in economic growth.

Long-term sustainable growth depends on the ability to increase the rate of accumulation of physical and human capital and use productive assets efficiently. Financial intermediation is important because it supports the investment process by mobilizing savings toward firms seeking to invest, thus allocating funds to more productive use.

Distributing risk by securing liquidity firms to operate with new efficient capacity. Firms make investment decisions to maximize the net present value of profit, but if the interest rate increases, the current net profit value will fall, making the investment less attractive. If expected future earnings will decrease, the present value will also fall, causing a fall in investment spending. As we can see, an important factor for investments is the interest rate, otherwise the credit terms for which firms will be willing to take a loan to increase their capital. If we pass on the macroeconomic analysis, it will result that the interest rate increase has a high impact on the value of the investments by reducing them, which in the macroeconomic perspective will lead to the reduction of aggregate demand, causing a deflationary gap in the short run, a decrease in real GDP and an increase in unemployment consequences that would adversely affect economic growth. Also, inflation caused by a reverse situation would have its consequences, it is known that inflation represents an obstacle to economic development and deters savings in the economy. So, we explicitly see the link that exists with the variables taken in the study. In the following, a general analysis will be carried out to understand their effect on the Albanian economy for the period 1996-2021.

3. Results

3.1 Descriptive Statistics

Descriptive statistics is the analysis of data that helps in describing, presenting, or summarizing data in a meaningful way, creating chances that data or patterns may arise through data. The following table presents descriptive statistics of the variables taken in the study. These statistics show a normality of data. We have to say that the results of Kurtosis are better when it exceeds the value of three. The value of government consumption and investment in GDP is greater than 3 is better and Kurtosis data are irregular in BP and RGDP since it is less than 3.

When the mean is lower than the median this means that the skewness is of a positive importance, according to the table we see that RGDP, INF, IR, BP, and GC are positive, and only IGDP has a negative impact. Jarque-Bera also shows the normality of the data, all variables are positively prone to the normal radius. All variables are close to each other.

Table 1. *Descriptive statistics*

	RGDP	GC	IR	INF	IGDP	BD
Mean	8359.52	906.71	0.1468	0.0666	596.23	2387.4
Median	8992.00	911.00	0.1300	0.0300	341.00	1984.0
Maximum	13219.0	1514.0	0.2400	0.3900	1343.0	5067.0
Minimum	1985.00	257.00	0.0800	0.0200	42.000	76.000
Skewness	0.25280	0.1897	0.7281	2.7342	-0.2045	0.0710
Kurtosis	2.40510	3.3887	2.3529	9.8309	13.118	1.1764
Jarque-Bera	2.4492	2.3975	2.0104	36.996	2.6399	2.9279
Probability	0.2938	0.2502	0.3659	0.0000	0.2671	0.2313
Sum	175550	19041	2.7900	1.4000	12521	50136
Observations	21	21	19	21	21	21

Source: Author's calculations

3.2. Correlation analysis

INF and IR have a negative correlation with BP and GC,
IGDP and RGDP have a positive correlation with BP.
The highest correlation is between BP and GC.

Table 2. Correlation matrix

	BP	GC	IGDP	INF	IR	RGDP
BP	1.0000000					
GC	0.971067	1.00000000				
IGDP	0.968241	0.947825	1.0000000			
INF	-0.44927	-0.547628	0.455898	1.0000000		
IR	-0760761	-0.876114	-0.740876	0.64588	1.00000000	
RGDP	0.965553	0.995308	0.937417	-0.549131	-0.864397	1.0000000

Source: Authors calculations

3.3. Unitary root test

Standard regression analysis requires that the series data be stationary. A series is called stationary when its mean and variance do not depend on time. The general form of the equation is:

$$y_t = x_t + u_t$$

where, ut is the term of error. The hypotheses built are:

H_0: δ=0 (has a unitary root, the time series is not stationary)
H_1: δ<0 (there is no unit root, the time series is stationary)

The H_o test rule is: if the estimated value is smaller than t-critical or not. The study will continue with the Dickey-Fuller and Phillips-Perron tests to see if the series is stationary or not. So, we will use these tests to see how our GDP series, private sector credit, credit interest, inflation, GDP investment, and government consumption are. The tests below will show us their stationary

and their levels. We will support our conclusions based on the ADF Statistical Report and Critical Value. So:

H_0: series have root units
H_1: series are stationary.

The table below shows the values for both the tests and the results after testing the Series I(0)

Table 3. *Augmented Dickey-Fuller Test for Unit Source*

Augmented Dickey-Fuller Test for the Root Unit				
	ADF	Critical value 1%	Critical value 5%	Critical value 10%
GPD	0.92	4.44	3.63	3.25
Private sector loans	3.13	4.53	3.67	3.28
Interest rate	0.87	4.00	3.09	2.69
Inflation	7.11	3.83	3.02	2.65
Investment	0.81	3.76	3.00	2.64
Government consumption	1.85	4.53	3.67	3.27

Source: Authors' Calculations

The Phillips-Perron test for unit roots showed that all of the variables except inflation were non-stationary at the zero-difference level. We then tested the variables in the first and second differences, but they remained non-stationary. However, the Augmented Dickey-Fuller test showed that all the variables became stationary in second differences, except for inflation, which was already stationary in first differences. This is consistent with economic studies and literature, which have found that most variables are integrated in first or second differences. The fact that all the variables became stationary in second differences suggests that they are cointegrated with each other. This means that they have a long-run relationship and can be modeled together.

Table 4. *Phillips-Perron Test for the Root Unit*

Phillips-Perron Test for the Root Unit				
	PP	Critical value 1%	Critical value 5%	Critical value 10%
GDP I(2)	11.70	3.80	3.02	2.65
Private sector lending I(2)	6.94	3.80	3.02	2.65
Lending interest I(2)	6.74	3.95	3.08	2.68
Inflation I(1)	3.762	3.510	3.004	2.642
Investment I(2)	11.35	3.80	3.02	2.65
Government consumption I(2)	9.53	3.80	3.02	2.65

Source: Author's calculations

3.4. OLS test method

Having established the stationarity of the series, we can proceed to analyze the relationship between lending and GDP growth using the ordinary least squares (OLS) method.

a) *The impact of private sector lending on government investment and consumption*

In the first theoretical analysis by various authors, it was emphasized that lending has an important role in economic growth and one of the factors influencing the investments. Investment growth, as we said above, is influenced by the ability of firms to increase their capital, so their ability to

take credit in this case. In the analysis of this paper in the case of Albania, from 24 observations we have obtained a relatively good explanation of private sector loan investments, which means that 86% of investments depend on lending, thus having a positive impact of lending on growth investments as it is expressed and a negative impact of the interest rate on investments. Also, this analysis shows a positive impact of private sector credit and government consumption with a 15.4% explanation. The government's economy, having this growth, will bring about the economy, cutting savings and raising interest rates. The latter would have the effect of lowering investment and domestic production. This conclusion could be summarized as the rate of interest in our country affects the level of demand for loans, an interest rate increase makes entrepreneurs avoid taking loans, getting funds to make a new investment, or further developing the existing one, the consequences of which would impact on economic growth.

b) *Private sector credit impact on economic growth.*

After analysing the impact of credit on two of the important factors of the model, we will see how economic growth is driven by private sector credit, government consumption, and investments. Again, their relationship will be studied with the method of small squares:

The number of observations is 24, $R^2 = 0.98$ Dependent variable is Real GDP

Table 5. *OLS test results*

Variables	Coefficient	Standard error	t	Probability
GC	0.4360	0.0461	9.458	0.0000
BP	1.2210	0.0246	4.944	0.0001
IGDP	0.5261	0.0807	6.5168	0.0000
C	95.437	3.0007	3.1804	0.0018

Source: Author's calculations

The results obtained in the OLS test for the variables of the paper show that real GDP has an elasticity of 98% of the variables taken in the study. The equation would be in this case:

$$RGDP = \alpha + \beta 1GC + \beta 2BP + \beta 3IGDP + \varepsilon$$
$$RGDP = 0.4360 * GC + 1.2210 * BP + 0.5261 * IGDP + 95.43$$

The explanation of which would be: β2 shows when consumption, investment, does not change a 1% change in private sector credit leads to GDP growth. Also, if we refer to the value of F-Critical (33.9) showing the statistical significance of the model, we can say it is of a high value, so the model can be considered relatively good. Our results suggest a positive relationship between GDP and private sector credit, government consumption, and investment.

We included the interest rate and inflation rate in our model because of their theoretical impact on the other variables. However, their analysis in the model was insignificant, so we excluded them from the results summary. This is likely due to the negative correlation between the interest rate and credit inflation, which can discourage investment and growth. Unexpectedly, the test results showed that government consumption has a negative effect on GDP. This conclusion is consistent with the theoretical literature. The positive

impact of loans on economic growth is consistent with the findings of other authors, such as Levine and Schumpeter.

4. Conclusions

This study's findings align with the perspectives of various authors and the existing literature. The historical analysis reveals significant fluctuations in lending, primarily attributable to the lack of confidence and the increase in bad loans. Analysis of lending in Albania from 1996 to 2021, along with its impact on the Albanian economy, supports the notion, as explained by Levine (1997), that there is a positive relationship between these variables. There is a negative correlation between INF and IR with BP and GC, while IGDP and RGDP exhibit a positive correlation with BP. The analysis shows a positive correlation between lending to the private sector and economic growth, as well as investment in the country. This aligns with the theoretical part supported by the Central Bank, which has recently implemented measures to reduce non-performing loans and lending risks, thereby improving lending conditions. The Bank's expansionary policies are expected to stimulate lending and foster economic growth. Contrary to our initial expectations, the test results indicate that government consumption has a negative effect on GDP. This aligns with the theoretical literature, as noted by Cavallo (2005), where government consumption reduces savings and increases interest rates, resulting in reduced investment. Importantly, despite their impact on other factors, the model analysis reveals that interest rates and inflation are not statistically significant. Based on the analysis and considering research conducted at the Bank of Albania, it is suggested that the Bank continues its policy of stimulating the economy through increased lending. While there may be temporary setbacks caused by lingering mistrust in the financial market and loan repayment concerns, as a developing country, Albania requires additional funding for further incentives. Facilitating access to funds, such as loans, can provide better support to investors in increasing their capital and promoting investment. The significance of investments, as emphasized throughout this analysis, becomes clearer when considering their impact on aggregate demand, leading to higher gross domestic product and reduced unemployment rates in the short term. Effective management of the inflation rate is essential in improving the overall economic situation. We acknowledge the limitation of our study posed by the small sample size. This may have introduced statistical errors in our analysis, including our time series stationarity tests. The small sample size was due to the lack of resources and the difficulty of finding detailed economic data for Albania over longer periods of time. This is a common challenge for researchers studying developing countries.

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