

THE IMPACT OF THE INTEREST RATE POLICY ON THE ALBANIAN ECONOMIC GROWTH

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Abstract

In USA, the 2008 global crisis started with the financial crisis, and soon after affected the real economy. It also started as a financial crisis in the Euro zone, while in countries with very weak public debt indicators and current accounts it was transformed into a state crisis. Experts in economics were concerned on how this crisis was being faced by small countries, and which were the most efficient mechanisms and instruments for their economic survival. Analysis of the data shows that financial system and real economy in Albania suffered shock from the crisis, but not collapse. Reasons related to the fact that the banking system and the real economy are less sophisticated than in United States, where the crisis began. Albania has maintained economic growth during the crisis period, although growth rates have fallen. Analysis of the data of the Bank of Albania through regression shows that the degree of impact of basic interest rate decreases on economic growth is big. This is achieved by keeping inflation in control.

The purpose of this paper is to present extent of the impact of the global crisis in the Albanian economy and the measures undertaken by the Bank of Albania for the preservation of economic growth in the framework of both global and Eurozone crisis, as well as to measure the degree of expansive monetary policy transmission, regarding the use of basic interest rate instrument in economic growth.

Econometric and regression methods are used. The data refer to the period 2000-2012, precisely to: the basic interest rate, monetary mass and GDP.

Keywords

Global crisis; Economic growth; Interest rate; Money supply; Regression.

JEL Classification: E58, E65

1. Introduction

In this paper are presented the degree of impact of the global crisis in the Albanian economy, and the effect of monetary policy of the Bank of Albania on economic growth. In order to achieve the purpose of the paper are defined the following objectives.

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- Submission of a picture of the global crisis and its impact on the Albanian economy.
- Presentation of Monetary Policy of the Bank of Albania in the period of transition.
- The regression method has been used to analyze the effect of reducing the interest rate on economic growth.
- Presentation of conclusions and recommendations based on the findings of the paper.

Crisis and the Albanian Economy. In this section are presented data on the impact of the crisis in the financial economy. The analysis focuses on the banking system, for the reason that nearly 80 percent of the financial system consists of banks. So, are presented data on inflation, deposits, government loans, and credit system.

Analysis of the data shows that the banking system in Albania suffered shock from the crisis, but not collapses. Reasons related to the fact that the banking system is less sophisticated than in the American banking system, where the crisis began, as well as the policy of the Bank of Albania.

The crisis has affected not only financial indicators, but also the economic ones. However, Albanian economy, did not suffer recession, it has maintained economic growth rates. This is due mainly to the structure of the GDP of the Albanian economy, but also the monetary policy of the Bank of Albania. Here, are presented data on key indicators of the Albanian economy. Concretely are presented data on GDP structure, deficit of current account, emigrant's remittances, etc.

Monetary Policy Bank of Albania. Here, is presented the history of the Bank of Albania monetary policy, divided into two periods, 1992-2000 and 2000-2012. These periods distinguish from each other mainly by the using of instruments direct and indirect. Thus, after 1992, Bank of Albania has mainly operated with two direct instruments, setting the interest rate of deposits and the limit of crediting.

During 1998, there was a high inflation rate due to the collapse of pyramidal system. In order to stabilize the currency, the Bank of Albania has followed a restricting monetary policy. During 1999, there was a defined reduction of inflation up to 3.2 percent, after that a systematic expansive monetary policy was passed by reducing interest rates. Bank of Albania since 2000 has defined the base interest rate, for all banks operating with state capital was substituted by market instruments. The purpose of the using of this instrument is that the changing of basic interest rate will affect market interest rates, banking system instruments, and consequently the real economy regarding the aggregate demand for the further promotion of economic growth. For this reason, the policy of the Bank of Albania has been an expansionary monetary policy.

Regression method. Through simple multifunctional regression econometric method is verified the impact of Bank of Albania monetary policy, especially the interest rate instrument on economic growth. To this aim, are collected data for the period 2000-2012, on change of basic interest rate, change of money supply and change of GDP.

From the analysis of the two equations results that expansive monetary policy, i.e. the reduction of basic interest rate, applied by Bank of Albania during the period 2000-2012, has had a positive impact on economic growth.

2. Crisis and the Albanian Economy

The reports of International Monetary Fund (IMF) on Albanian economy highlight that Albania has well faced the world financial crisis of 2008, and avoided the economic fall, *Margaret 2009*.

Despite this, the crisis has affected various economic indicators. The following shows the first impact of crisis on both financial and banking system, as well as on the real economy, and the data refer to 2008.

2.1 Crisis impact on financial and banking system

Albanian banking and financial system resisted to the financial crisis, because it was less sophisticated compared to that of USA, *Pano 2009*. The following shows the differences between Albanian and the American system:

➤ Albanian system lacks the market of financial instruments. Albanian bank transactions are very traditional, and encompass common banking deposits as well as limited and simple crediting.

➤ There is no market of securities, with the exception of that of treasury bills.

➤ There are no different financial derivatives.

➤ The procedures as to the assessment of customer solvency are very traditional. Independently of this, the crisis had its own impact on the main financial and banking system indicators.

In early 2008, the economy was under inflation pressure, mainly due to demand strikes and as a consequence there was an increase of inflation. Thus, during the third trimester of 2008 inflation reached up to 4.2 percent. There was a falling tendency of inflation by the end of 2008, graph 1. This is due to the fact the price fall of raw materials in the international market, as well the slow down of domestic demand rate triggered by the economic fall. The average annual inflation during the first trimester of 2009, was 1.9 percent, while in the second trimester of 2009 the inflation fell by 0.5 percent.

There is a slow down in the increase of deposits that affects the balance of commercial banks, but not their solvency. During the first two months of 2009, the increasing rate of foreign currency deposits was reduced by 3 percent, graph 2. The

money out of the banks in domestic currency, signed a rapid increase because of lack of trust by the people to save their money in banks, Graph 3.

Because of lack of liquidities, the government demand to borrow from the public increases. The consequence is the increase of interest rates of government treasury bills. Thus, in March 2009, treasury bills' interest rate reached their highest level of 9.2 percent, graph 4. Credit system shrank. The annual increasing rate of crediting portfoglio slowed down by 28.5 percent, in February 2009, compared to 44.2 percent, of Oct. 2008, graph 5.

2.2 Crisis impact on real economy

The crisis has affected not only financial indicators, but also the economic ones, Pano, 2009.

Industrial production constitutes 8 only percent, of GDP. It is composed of; power production which entirely depends on natural conditions, production of certain minerals for export and clothing production using orderers' material which are mainly exported. Hence, the difficulties to export minerals and textile products because of price reductions have negatively affected the economic growth.

Emigrants remittances, a very important source for the economy of the country. Their reduction affects; purchasing power of country's population, the exchange rate of our currency and feasible investments of emigrants at home,

The economic down fall in Italy and Greece, directly affected the reduction of respective emigrants' remmitances. Because of the reduction of both trade balance and remmitances, it is worsened the deficit indicator of current accounts as to GDP. On 31.12.2008, the deficit of current account was 14.9 percent, of GDP versus the 10.4 percent, of the previous year, Graph 6.

3. Monetary Policy of Bank of Albania

Bank of Albania has followed a well defined monetary policy, to mitigate the effects of the crisis and the analysis of its effects is the object of this study. Hereunder is a history of monetary policy use.

3.1 Monetary Policy in the period 1992-2000

The establishment of Bank of Albania in April 1992 was associated among others with the development of the monetary policy framework and its instruments. Within this framework, the Bank of Albania manages the monetary regime. This bank intervenes into the money supply by changing it, and this change is reflected into price level and economic growth, depending on the set target. In order to implement its monetary policy, Bank of Albania has operated in two ways; directly, through its regulatory power, and indirectly by influencing the money market.

After 1992, Bank of Albania has mainly operated with two direct instruments, setting the interest rate of deposits and the limit of crediting. All crediting institutions which performed banking operations should respect crediting limits, i.e. they should respect the limit of crediting according to the levels defined by the Bank of Albania. Similarly, the Bank of Albania defined the interest rates for the deposits of second level banks. In addition, it started the application of indirect instruments, keeping the compulsory reserve for the second level banks and publishing the re-financing rate. In 1992 second level banks started to apply 10 percent on their liabilities from third parties in their respective accounts at the Bank of Albania.

Despite this, the monetary policy of this period is based mainly on using the above mentioned direct instruments. The development level of financial system in Albania at that time permitted the use of a monetary policy based almost entirely on direct instruments of monetary control. Direct instruments used during this period, have been both trustful and successful, without any evident side effect on credit control as to the economy, distribution and its cost, *Sheqeri 2003*. These instruments were used as a bridge to pass from the one grade to the two grade banking system, and from the centralized economy to the market economy, *Sokoler 2009*.

In 1999, the limiting instrument was abolished, and since 2000, the defining of deposit interest rates for the banks operating with state capital, was substituted by the defining instrument of the basic interest rates from the Bank of Albania, *Peeters 2009*.

During 1998, there was a high inflation rate due to the collapse of pyramidal system. In order to stabilize the currency, the Bank of Albania has followed a restricting monetary policy, which meant the increase of deposit interest rates that led to a sensible reduction of inflation, up to 8.7 percent, by the end of 1998. During 1999, there was a defined reduction of inflation up to 3.2 percent, after that a systematic expansive monetary policy was passed by reducing interest rates. Hence, under the conditions of stabilized inflation, the main objective of the Bank of Albania is the promotion of economic growth.

3.2 Monetary Policy 2000-2012.

As was mentioned above, the interest rates were defined by the Bank of Albania since 2000 and for all banks operating with state capital was substituted by market instruments, where the main instrument is the defining of the basic interest rate by the Bank of Albania. Hence, the changing of basic interest rate will affect market interest rates, banking system instruments, and consequently the real economy regarding the aggregate demand for the further promotion of economic growth, *Kolasi et.al 2010*.

Interest rate channel is the main mechanism of monetary transmission through which monetary policy may affect aggregate demand, and that is the reason why it has taken an increasing role during the last years, *Angeloni et al., 2003*.

3.3 Use of interest rate instrument in the frame of global crisis.

Bank of Albania, aiming to protect the real economy and maintain the economic growth, has reduced the basic interest rate from 6.25 percent, in November 2007 to 5.75 percent, in January 2009. As to the efficiency of this measure, various experts and analysts are not very confident and differ in their opinions. According to them, Bank of Albania should have operated more professionally, and had to reduce the interest rate earlier. Hence, these experts suggested a more aggressive reduction of the basic interest rate in the Albanian economy, as an anti-crisis measure, *Cani, 2009*. According to him, the reduction of crediting in European and regional economy would have a chain like economic effect, which would bring about a restrain of GDP growth at least by 0.5-1 percent. Nevertheless, crediting interest rates, for both domestic and foreign currencies, businesses and individuals, has had a downward tendency since 2009. It is obvious that this is also a consequence of the interest rate decrease applied by the Bank of Albania. The last interest rate change dates on 05.02.2013 at 3, 75 percent.

4. Interest Rate and Economic Growth

The objective of this analysis, as afore mentioned, is to verify the impact of Bank of Albania monetary policy, especially the interest rate instrument on economic growth, through econometric methods. To this aim, the following are the collected data for the period 2000-2012.

- Change of basic interest rate
- Change of money supply
- Change of GDP in the respective period.

Our analysis provides an answer to this question; has the transmission followed the right path, and which is the transmission rate? Linear relationship shows the correlation of the above and the positive impact of interest rate policy on economic growth, graphs 7, 8, 9. But graphical representation does not provide thorough assessment of the trends. For this reason, we used econometric method as follows.

First let us consider the relationship between the basic monetary rate and money supply. We are considering the money supply as a dependent variable (Y) and basic interest rate as an independent variable (X). The following are the hypothesis tested:

➤ **No hypothesis;** H_0 : reduction of basic interest rate affects the increase of money supply

➤ **Alternative hypothesis** H_1 : basic interest rate reduction affects the reduction of money supply.

Based on monetary policy transmission mechanism, regression analysis continues with relationship of two other indicators, money supply and GDP. Following the same logic, first we develop both basic and alternative hypothesis.

➤ **No hypothesis;** H_0 : increase of money supply, leads to GDP increase.

➤ **Alternative hypothesis; H1:** increase of money supply, leads to GDP reduction.

5. Results

The respective coefficients of regression are given in Table 1. The impact of factor X on Y is measured by the coefficient of determination R^2 . In our case, $R^2 = 0,597$, shows a higher degree of negative relationship between these factors.

The relationship between the interest rate and money supply is given by the equation:

$$Y = \beta_0 + \beta_1 x_1 = 415.68 - 34.548 X_1 \quad (1)$$

which shows that for any decrease of the interest rate basis point, the money supply increases by (415,7-34,548) in million ALL. We proceed further with verifying of the above hypothesis. Since $t_f = 27,988 > t_k$, it means that H_1 falls and H_0 is accepted. Furthermore, the fact that $P\text{value} = 5,477 > \alpha = 0,05$, verifies the above fact, thus, H_0 is accepted. Hence, once again the relationship between the two indicators is verified.

From Table 2, the regression respective coefficient, $R^2 = 0,826$, shows a high degree of positive relationship between the indicators. Regression equation is:

$$Y = 77,1904 + 0,536263 X_1 \quad (2)$$

This means that for one in million ALL of increase of money supply, GDP increases by (77,1904 + 0,536263) in million ALL. Thus, it is once again verified the strong positive relationship between the two indicators. Following the aforementioned logic, we verify our hypothesis. Since $t_f = 18,279 > t_k$, it means that H_1 falls and H_0 is accepted. Furthermore, the fact that $P\text{value} = 8,69 > \alpha = 0,05$, verifies the above fact, thus, H_0 is accepted.

The above conclusion, can be reached even through another regression analysis, which directly relates, the basic interest rate and GDP.

Results in Table 3, show the indirect relationship between basic interest rate and GDP, given by the following equation:

$$Y = 5.56 - 0.485x \quad (3)$$

Y shows the level of GDP and X indicates interest rates. Following the above logic it is verified the sustainable, indirect relationship between basic interest rate and GDP. It is observed that the relationship is not of the same strength level as with the other indicators.

6. Discussion

The following are the main findings that result from the use of simple regression method in connection with the effect of Bank of Albania monetary policy.

➤ The Bank of Albania has applied an expansionary monetary policy. Specifically has reduced the interest rate since 2000.

➤ Regression coefficients indicate that the reduction of interest rates has had a considerable influence on economic growth.

➤ The expansive monetary policy of the Bank of Albania is realized without major side effects. Inflation is held under control, at the level of 4 percent.

In these conditions are some important issues to be discussed. Is there the further space for the Bank of Albania to reduce the interest rate without causing inflation? Could be followed while an expansionary fiscal policy?

As above mentioned, the expansive monetary policy, i.e. the reduction of basic interest rate, applied by Bank of Albania during the period 2000-2012, has had a positive impact on economic growth. The method shows that the degree of impact of basic interest rate decrease on economic growth is big. This is achieved by keeping inflation in control Albania's fiscal policy instruments are exhausted. Signs of public debt crisis have begun. His level is over 60 percent.

Economic analysts in Albania have emphasized that the Albanian economy has exhausted the main sources of the transition period. According to them the first way not to fall in recession economy and ensure economic growth rates is an economic re-modeling. This means that should be structured branches of the economy, to be set new priorities, such as the development of agriculture, tourism, local products, etc. But it is a long way. In the short term, under current conditions of Albanian economy, where economic growth is low and an economic re-modeling through fiscal and monetary expansive policy is indispensable, it is judged that monetary policy is the most efficient.

According to the above method it is foreseen that there is room for the reduction of basic interest rate in the future, without risking falling into inflation.

7. Conclusions

Global crisis has affected the main macroeconomic indicators of the country, without causing recession and lack of solvency by the part of banking and financial system. Analyzing the health of banking system indicators shows an increasing level of risk and a decrease of its financial capacity. Due to global crisis and slowing down of economic grow rates banks have revised their strategic plans, by having a more conservative approach to increasing the activity.

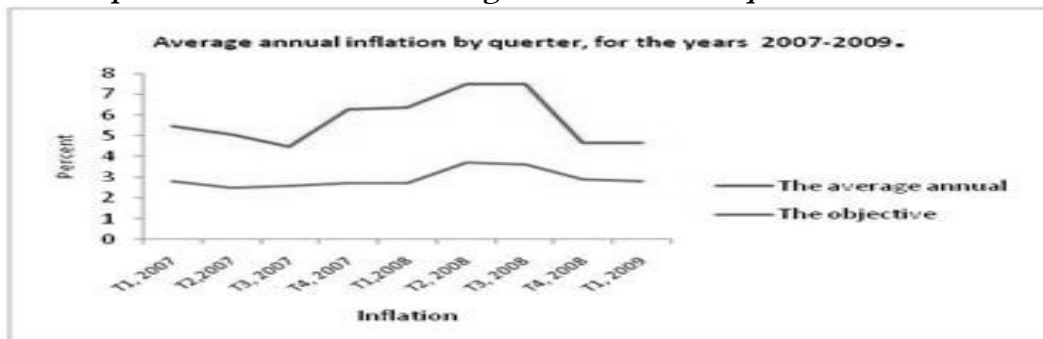
Bank of Albania and financial institutions were aware of the fact that since crisis appeared somewhere else, it could not be solved in Albania, but Albania should try its best to preserve its economic and financial stability. Thus, they realized a very careful monitoring of the situation by undertaking a series of actions, which lessened the pressure on the banking system. Thus, Bank of Albania developed a strategy about changes in the respective regulations and use of monetary instruments, such as the interest rate.

Use of monetary instruments was part of the anti-crisis package. In the frame of measures undertaken by the Bank of Albania, it should be highlighted the expansive monetary policy, particularly the reduction of basic interest rate. By analyzing the respective data using the statistical method of regression, we come to the conclusion that monetary policy, expansive monetary policy, and particularly the reduction of basic interest rate, which were applied by Bank of Albania, especially during the period 2008-2012, were associated with a positive impact on economic growth.

In addition, the method shows that the degree of impact of basic interest rate decrease on economic growth is big. Through this method, it is foreseen that there is room for the reduction of basic interest rate in the future without risking to fall into inflation. Under current conditions of Albanian economy, where economic growth is low and an economic re-modeling through fiscal and monetary expansive policy is indispensable, it is judged that monetary policy is the most efficient one.

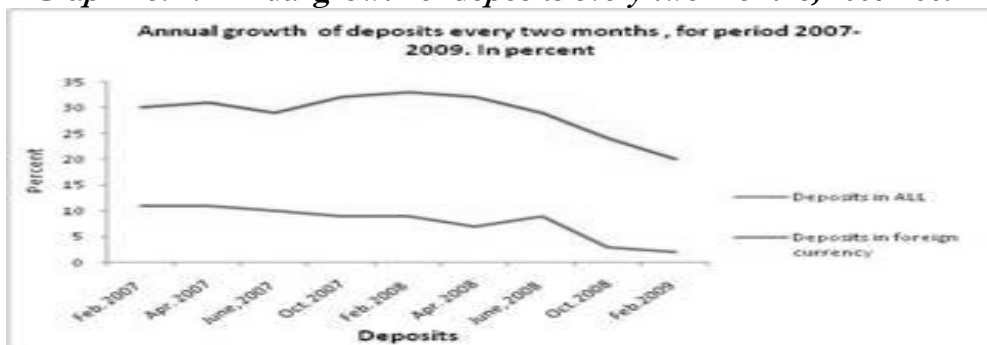
GRAPH VIEW

Graph no. 1. *Inflation according trimesters for the period 2007-2009.*



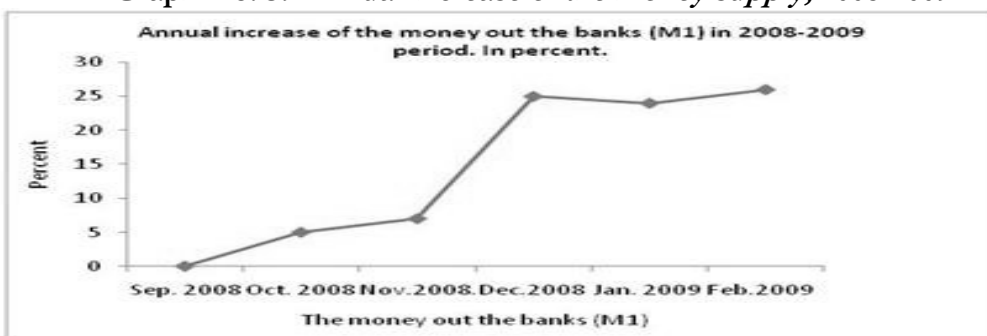
Source: Bank of Albania Report on Monetary Policy, First trimester 2009.

Graph no. 2. Annual growth of deposits every two months, 2007-2009



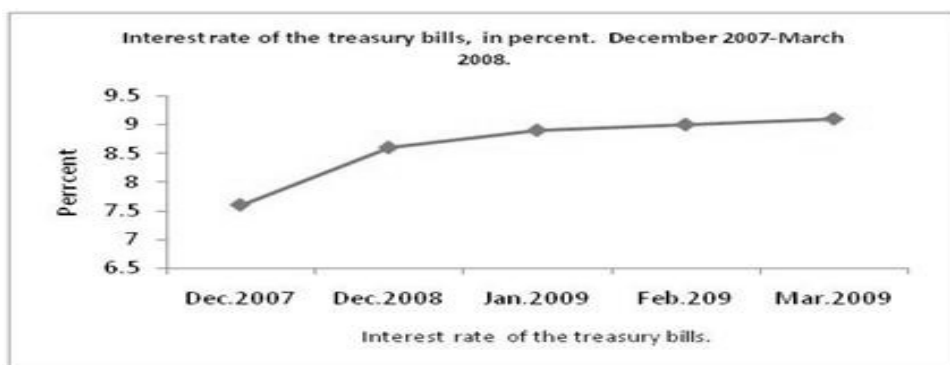
Source: Bank of Albania. Report on Monetary Policy, First tremester 2009

Graph no. 3. Annual increase of the money supply, 2008-2009

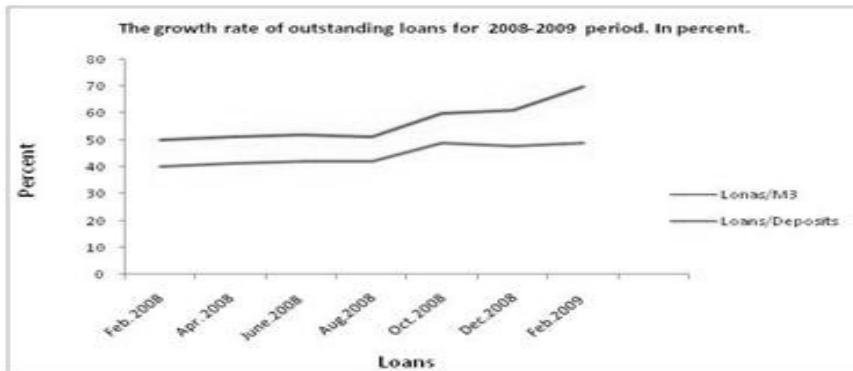


Source: Bank of Albania, Report on Monetary Policy, First tremester of 2009.

Graph no. 4. Interest rate for treasury bills.



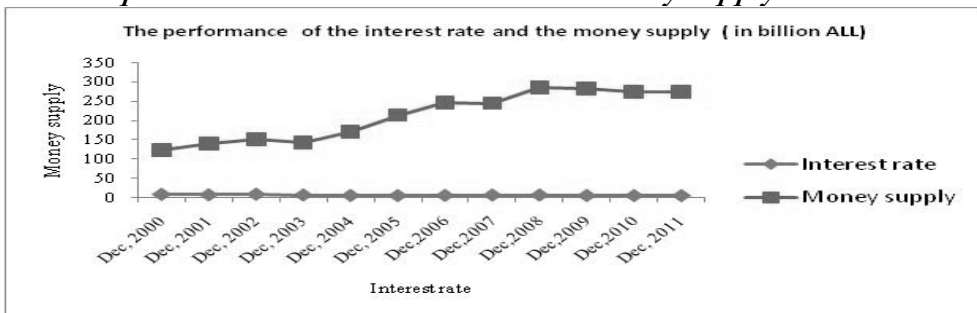
Source: Bank of Albania, Report on Monetary Policy, First tremester, 2009.

Graph no. 5. The growth rate of outstanding loans, 2008-2009.

Source: Bank of Albania, Report on Monetary Policy, First tremester, 2009.

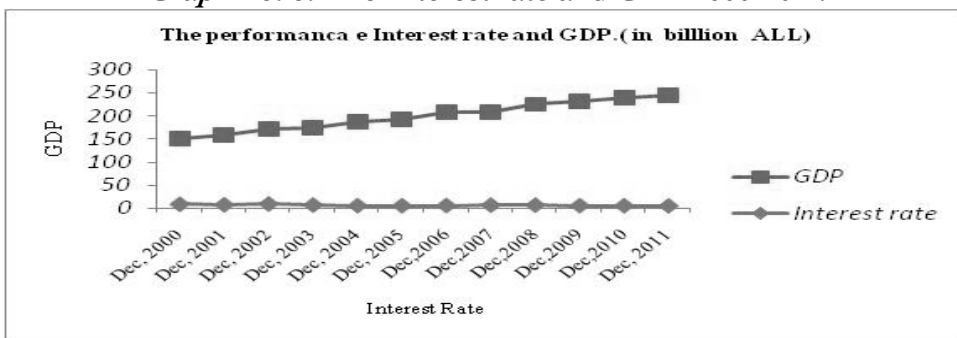
Graph no. 6. Current account, as percentage against GDP

Source: Bank of Albania, Reprt on Monetary Policy, First tremester, 2009.

Graph no.7. The interest rate and the money supply 2000-2011.

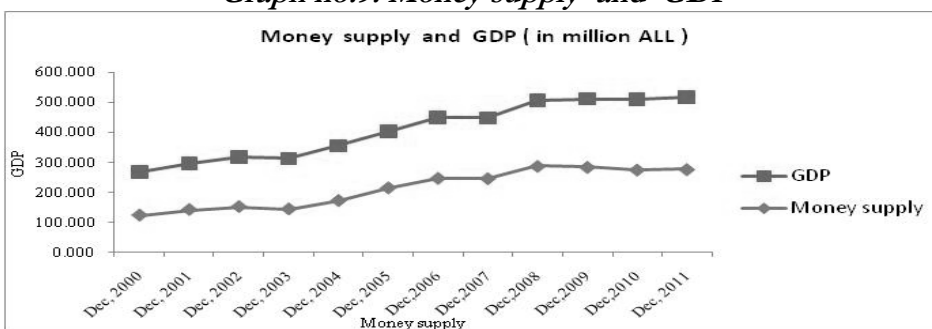
Source: Bank of Albania, Report on Monetary Policy, First tremester 2012.

Graph no. 8. The Interest rate and GDP 2000-2011.



Source: Bank of Albania, Report on Monetary Policy, First tremester 2012.

Graph no.9. Money supply and GDP



Source: Bank of Albania, Report on Monetary Policy, First tremester 2012.

Table
Table no. 1.

Regression Statistics	
Multiple R	0,7730565
R Square	0,5976164
Adjusted R Square	0,5948976
Standard Error	37,720585
Observations	150

ANOVA

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	312752,4535	312752,4535	219,8081943	4,67003E-31
Residual	148	210580,6986	1422,842558		
Total	149	523333,1521			

	<i>Coeff.</i>	<i>Stand. Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	415,68	14,8520	27,9881	5,477E-61	386,3308	445,029
X Variable	-34,548	2,330256	-14,8259	4,67E-31	-39,1531	-29,94336

Table no. 2.

Regression Statistics	
Multiple R	0,9089
R Square	0,8261
Adjusted R Square	0,8249
Standard Error	14,63
Observations	150

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	150498,9339	150498,93	703,10364	4,341E-58
Residual	148	31679,31588	214,04943		
Total	149	182178,2498			

	<i>Coefficients</i>	<i>Stand. Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	77,19	4,222	18,2794	8,691E	68,8456	85,5351
X Variable	0,5363	0,0202	26,5161	4,341	0,4962	0,5762

Table no. 3.

Source	SS	df	MS	Number of obs = 149		
Model	.615798279	1	.615798279	F(1, 147) =	214.50	
Residual	.422018176	147	.002870872	Prob > F =	0.0000	
Total	1.03781646	148	.007012273	R-squared =	0.5934	
				Adj R-squared =	0.5906	
				Root MSE =	.05358	
loggdp	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
normainter~t	-.0485686	.0033162	-14.65	0.000	-.0551222	-.042015
_cons	5.56061	.0211589	262.80	0.000	5.518795	5.602425

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