MONETARY POLICY OF ALBANIA–DOES A MONETARY TIGHTENING RISE OR LOWER INTEREST RATES?

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Abstract

Policymakers view interest rates as the main instrument of the monetary policy to achieve the objectives of the Central Bank. The purpose of this paper is to test the relationship between monetary policy and nominal interest rate, in case of monetary tightening for Albania in long and short run. To understand this link, the study was focused on liquidity preference and Fisher effect. Behind this hypothesis, the main ideas include money demand, money supply, interest rates, inflation and the role that Bank of Albania plays in interaction of this components with each other. Analysis of the Fisher effect suggests that, in the long run when prices are flexible, a reduction in money growth would lower inflation and this would lead to lower nominal interest rates. But in the short run when prices are sticky, this monetary policy would lead to falling money growth and higher interest rates.

Data was taken from the Bank of Albania during the time interval of the year 1995-2011.

Key Words: Money Supply, Albania, Nominal Interest Rates, Fisher Effect.

INTRODUCTION

Monetary tightening policy means that the Central Bank takes actions in order to constrict spending in an economy that is growing too quickly or it can be used to slow down the inflation when it is rising too fast. The Central Bank will make money tight by rising the interest rates in the short term, and this in turn will increase the cost of borrowing and promote saving. It will affect all other interest rates offered by commercial banks in the country, because they borrow money from the Central Bank, thus the interest rates in general will increase. Banks will have less credit to lend, and less liquidity because this theory can reduce the amount of credit and banks do not generate enough income from the interest rates on loans. Individuals and businesses that have taken loans and have insufficient capital, may be unable to repay personal or business loans. In order to increase the liquidity, the Central Bank increases the bank reserve requirements. In order to restrict the money supply, the Central Bank can sell treasures,

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government bonds. In this way, it will take fund from the market, with the promise to pay them back with interest in time of tightening monetary policy.

But the question that rises in this paper is how does the money tightening policy influence the interest rates? Is it the same in the short run and long run?

In order to answer this question, the paper will take into consideration the Fisher effect hypothesis and the Liquidity Preference Theory.

Analysis of the Fisher effect suggests that in the long run when prices are flexible, a reduction in money supply would lower inflation, and in turn this would lead to lower interest rates. But the theory of liquidity preference predicts that in the short run, when prices are sticky, anti-inflationary monetary policy[1] would lead to lower money balances and higher interest rates. (Mankiw, 2010)

So, according to the theories, the answer depends on the time horizon and In order to understand the link between monetary policy and nominal interest rates[2], we need to keep in mind both the theory of liquidity preference and the Fisher effect. A monetary tightening leads to higher nominal interest rates in the short run and lower nominal interest rates in the long run.(Mankiw, 2010)

To have a clear idea, later on the paper will be shown the relationship between money supply and interest rates, by taking into consideration other factors included in the process. In order to have an answer with real data, a regression model will be built to have a better picture of Albanian case in time of monetary tightening policy.

At the end, will be gathered some concluding remarks for the research work done on this paper.

LITERATURE REVIEW

Peng Huanga, C. James Hueng and Ruey Yauc (2010), on a research paper regarding the effects of monetary policy on exchange rates in Asia conclude that the relationship between interest rates and exchange rates should be modeled as time-varying in order to analyze the dynamics of the relationship during the period of crisis. The empirical results indicate that, for all three Asian countries taken into consideration, the direct channel through which a higher interest rate causes the currencies to appreciate is not statistically significant and there is no significant evidence in favor of the traditional view which states that using a tight monetary policy defends weak currencies.

[1] Is carried out by central banks. It uses increases in interest rates to hold down price inflation.
[2] The interest rate before taking inflation into account.

Increases in interest rates lead to exchange rate appreciation in Indonesia and Korea, but the effect is highly insignificant. Raising the interest rates at the beginning of the crisis leads to higher exchange rate volatilities in Thailand, and the resulting increase in the exchange rate risk premium has a significant and negative effect on the exchange rate.

This is in line with the revisionist view which states that increasing interest rates could lead to currency depreciation because higher interest rates induce higher risk premiums.

Magdalena Morgese, Borys Roman Horva´th and Michal Franta, (2009) in a paper regarding the effects of monetary policy in Czech Republic, find that prices and output decline after a monetary tightening, with the bottom response occurring after about one year. They document that the reaction of tradable prices is faster than that of non-tradable prices. While the maximum effect of a monetary shock on tradable can be seen after a year or so, it is at least a year and a half for non-tradable prices. Their results support the notion that the price puzzle is associated with model misspecification rather than with the actual behavior of the economy.

Results also indicate an appreciation of the domestic currency after a monetary tightening (Eichenbaum and Evans, 1995), with a gradual depreciation afterwards.

Takayasu Ito,(2009) in a paper regarding the validity of the Fisher hypothesis in Japanese long-term interest rates, under different monetary policy regimes, concludes that Fisher hypothesis does not hold on the long-term for Japain. Thus the real interest rates do not remain constant in time. The results of the cointegration vector test show that all maturities of interest rates are in a one-to-one relationship in the first period. From the tests of cointegration and the tests of cointegration vector, it can be concluded that the Fisher hypothesis holds in the interest rates of two, three, four, five, seven and ten years only in the first period but not in the second and third period.

Leonardo Gambacortaa and S. Iannotti, (2007) investigate the velocity and asymmetry in the response of bank interest rates to monetary policy shocks in Italy in the period from 1985 to 2002.

Results show that the direction of monetary policy changes cause an asymmetric reaction and thus have a different impact in terms of lending and deposits only when the degree of competition in the banking system is somehow limited. In this case the policy maker should expect different overall effects on consumption and investment depending on the fact that the monetary action is easing or tightening. On the contrary, if a complete liberalization of the credit market has taken place, the adjustment of bank interest rates to monetary policy changes is faster and there are no significant asymmetries. In this case it may be more important to check for cross-sectional differences among banks, for example in terms of liquidity and capitalization that could determine a heterogeneous response in the bank rate passthrough.

Marta Muço, Peter Sanfey and Anita Taci (2004), in a research paper regarding inflation, exchange rates and the role of monetary policy in Albania conclude that exchange rate stability has played a key role in keeping inflation low for most of the transition period. The variety of monetary policy instruments available to the authorities has widened in recent years and this has been associated with more stable and predictable changes in money supply and the price level.

The introduction of indirect instruments of monetary policy appears to have contributed in an effective role of the exchange rate transmission mechanism of monetary policy into the Albanian economy.

DATA AND METHODOLOGY

The study was focused on liquidity preference and Fisher effect.

The liquidity preference refers to demand for money and the interest rate is determined by the supply and demand for money. According to this theory, the public holds money for three purposes: 1) to have money on hand for ordinary transactions, 2) to keep as a precaution against extraordinary expenses, and 3) to use for speculative purposes. The amount held for the last purpose would vary inversely with the rate of interest. If interest rates are higher, people will tend to hold less money on their pockets, and if interest rates are lower they will decide to keep more money on their hand.

Fisher effect states that the real interest rate equals the nominal interest rate minus the expected inflation rate. Analysis of the Fisher effect suggests that, in the long run when prices are flexible, a reduction in money growth would lower inflation and this would lead to lower nominal interest rates. But in the short run when prices are sticky, this monetary policy would lead to falling money growth and higher interest rates.

When a central bank sets the money supply, it determines the equilibrium interest rate. In some ways, setting the money supply and setting the interest rate are two sides of the same coin.

The data consist of three variables: (1) independent variable (Money supply), and (2) dependent variable (interest rates)

Fisher hypothesized that the nominal rate of interest is made up of two components: the expected rate of inflation (π) and nominal interest rate (i):

$$i = r + \pi$$

(r) stands for the real interest rate which is the real cost of borrowing money.

$$r = i + \pi$$

Nominal interest rate can change for two reasons.

1) real interest changes,
2) the inflation changes.

Real interest rate is the growth rate derived from an investment. For example if a person earns 6 % interest rate (nominal interest rate) from the saving bank account and the inflation is 4 %, than the real interest rate that these person is earning is 6 % - 4 % = 2 %

Fisher concludes that nominal interest rates move together with inflation.

According to the data gathered for Albania, from year 1995 to 2011, it is noticed that interest rates are higher than inflation. Every time that it is noticed an increase in the interest rates (1995-1997) there is also an increase in the inflation, and every time that the interest rates decreased, inflation decreased.

The quantity theory of money shows that the rate of money growth determines the rate of inflation. If it is to be combined with the Fisher equation, money growth will affect nominal interest rate.

Regression Analysis

Regression Statistics	
Multiple R	0.605164298
R Square	0.366223827
Adjusted R Square	0.323972083
Standard Error	5.355397797
Observations	17

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	248.5910106	248.5910106	8.667661625	0.010053452
Residual	15	430.2042835	28.68028557		
Total	16	678.7952941			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4.883305625	2.271769968	2.1495599	0.048315131	0.041142582	9.725468668	0.041142582	9.725468668
Money Supply	0.30614967	0.103987903	2.9440892	0.010053452	0.084504702	0.527794638	0.084504702	0.527794638

The Regression Statistics Table gives the overall goodness-of-fit measures.

Multiple R shows the correlation between y and x, and it is 0.60, so 60 %.

When squared, the correlation is 0.36, so 36%. This indicates that only 36% of the correlation can be explained.

The standard error is high and it indicates that the data points are spread out over a large range of values.

The number of observations used in the regression is 17.

The analysis of variance table splits the sum of squares into its components.

Total sums of squares = Residual (or error) sum of squares + Regression (or explained) sum of squares.

R^2 = 1 - Residual SS / Total SS

= 1 - 430.2042835/ 678.7952941

=1 – 0.633= 0.367 (which equals R^2 given in the regression Statistics table).

The regression model is: $y = \beta_1 + \beta_2 x + u$

b1=4.8

b2=0.30

y=4.8 + 0.30x

Money supply =4.8+0.30 interest rate

The supply of real money balances M/P equals the demand $L(r, Y)$.

$M/P = L(r^*, Y)$.

The slope coefficient has estimated standard error of 0.103

The slope coefficient has t-statistic of 0.30614967 / 0.103987903 = 2.94

The slope coefficient has p-value of 0.010

The 95% confidence interval for β_2 is (0.0845, 0.5277).

CONCLUSION:

From the data in Table 1, it is noticed that Albania, from year 1995 up to 2011 has applied a monetary policy of tight money. In the same time, it is noticed that the rate of inflation has been very high in the first years, from 1996-1998. The idea behind this tight money is to slow down the high inflation that appears when the economy is growing too fast. In the short term, the interest rates are raised, but what is noticed in the long term is that the interest rates lower. Tight money discourage investment and spending because borrowing becomes more expensive and incourages saving in the banks. This kind of policy effects negatively to the disposable income. People or investors who have to pay a mortgage or credit have to pay more with the new interest rate. In the same time, this kind of policy has effected the exchange rate and has appreciated Lek.

While there is considerable evidence that tight monetary policy has a large impact on short-term interest rates, the connection between this policy and long-term rates appears weaker and less reliable. The analysis presented in this paper suggest a stronger but more variable connection between tight monetary policy actions and long-term rates. Market expectations play such an important role in the response of long-term rates to monetary policy. Monetary policy actions are likely to be most effective in changing long-term rates when these actions are seen as persistent. Consequently, to the extent that investors' views about the persistence of monetary policy actions change over the business cycle, the ability of monetary policy to influence long-term rates may vary over time.

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APPENDIX

Table 1. Data are in percentage

Years	Money Supply	Interest Rates	Inflation
1995	51.8	15.3	5.6
1996	43.8	16.8	28.4
1997	28.5	27.3	13.9
1998	20.6	22.6	13.6
1999	22.3	12.9	4.5
2000	12	8.3	4.3
2001	19.2	7.7	3.5
2002	4.3	8.5	3.3
2003	8.7	8.4	3.4
2004	13.5	6.6	6
2005	14.1	5.1	3.5
2006	16	5.2	2
2007	13.7	5.7	2
2008	7.7	6.8	4.4
2009	6.8	6.8	2.4
2010	12.5	6.4	3.5
2011	9.2	5.9	3

Source: World Bank

Table 2

MONEY | STATISTICS	LAST		PREVIOUS	HIGHEST	LOWEST	FORECAST		UNIT	TREND
INTEREST RATE	3.75	MAY/2013	3.75	8.50	3.75	4.00	DEC/2013	PERCENT	
MONEY SUPPLY M0	286351.93	MAR/2013	284487.99	303282.08	29998.00	295449.91	DEC/2013	ALL MILLION	
MONEY SUPPLY M1	274754.62	MAR/2013	270666.88	288814.35	27624.00	287823.06	DEC/2013	ALL MILLION	
MONEY SUPPLY M2	669027.80	MAR/2013	666244.10	669577.09	39937.20	693434.30	DEC/2013	ALL MILLION	
MONEY SUPPLY M3	1119309.96	MAR/2013	1118335.87	1123407.84	50185.40	1160849.74	DEC/2013	ALL MILLION	

Source: World Bank 2013

Table 3