

WHAT WOULD HAPPEN TO UNEMPLOYMENT AND OUTPUT IF THE CENTRAL BANK PURSUED A POLICY TO REDUCE INFLATION?–CASE OF ALBANIA

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Abstract

Some of the main goals of policy makers in almost every country are low inflation and low unemployment and economic growth. Government policies are successful if it can be reached price stability and low unemployment. The goal of this paper is to analyze the effects of inflation expectations on unemployment rate in the Albanian economy, in the short and long run. To understand the link this study was focused on the Philips curve. Based on the theory of Philips curve it is stated that in order to reduce unemployment a higher level of inflation should be accepted or if there is a reduction in inflation, a temporary raise of unemployment rate will appear. Policymakers who control aggregate demand will face a short – run trade-off between inflation and unemployment. In the long – run, the classical dichotomy holds, unemployment returns to its natural rate, and there is not trade-off between inflation and unemployment.

Key Words: Philips Curve, Natural Rate, Supply Shock, Albania, Inflation, Unemployment, Transitory Countries

INTRODUCTION

Central banks have two main goals, to keep low inflation and low unemployment. Reaching both goals it is usually very difficult. The relationship that exists among inflation and unemployment it is reverse. If aggregate demand rises by the policymakers basically giving a simple example the cycle goes much like this: if people work the output of the nation will increase, the wages will raise and consuming level of goods/services will increase, resulting that the demand will increase the prices of goods/services will increase. An increase in the price level compared to the previous year it means that inflation has risen.

Nowadays, or maybe even earlier starting since late '80s, the academic and professional opinions are converging to the point that low inflation means higher economic growth and higher employment rate. Many theoretical arguments in favor of or against the presence of inflationary pressures in economy have been brought forth, providing room for different interpretations, such as the one that an expansionary monetary policy can generate higher growth and higher

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employment. However, it should be noted that this does not hold true over long time periods, since the empirical evidences show that inflation and economic growth are negatively correlated, i.e. the higher the inflation rate, the lower the economic growth (Barro1995, De Gregorio 1994, Fischer 1994).

During the page will be analyzed the fact that the Phillips curve tells us that in the absence of a supply shock, to lower inflation it is required a period of high unemployment and reduced output.

But by how much and for how long would unemployment need to rise above the natural rate? Before deciding whether to reduce inflation, policymakers must know how much output would be lost during the transition to lower inflation. This cost can then be compared with the benefits of lower inflation. (Mankiw, 2010)

A problem that rises in this paper is the estimation of a short run tradeoff in between unemployment and inflation, by analyzing the Philips curve and non-accelerating rate of unemployment.

The derivation of the Philips curve states that the inflation rate depends on three forces: Expected inflation, the deviation of unemployment from the natural rate, called cyclical unemployment and supply shocks.

These three forces are expressed in the following equation:

$$P = E p - b(u - u^*) + v$$

Inflation = Expected inflation – (b x cyclical unemployment) + shock supply

b is a parameter measuring the response of inflation to cyclical unemployment. Notice that there is a minus sign before the cyclical unemployment term: other things equal, higher unemployment is associated with lower inflation. (Mankiw, 2010)

The following steps of the research will be followed by some conclusions observed and evidenced during the research.

LITERATURE REVIEW

Hogan, V. (1998), "Explaining the Recent Behavior of Inflation and Unemployment in the United States", in this paper we see that the link between inflation and unemployment is not at the same situation as it should be according to the Philips curve model. Both rates are declining recently and they are not correlated as they were supposed to. This raised the need to consider the fact that the NAIRU may have fallen slightly but not at the sufficient level to impact on the

recent behavior of inflation. The purpose he had in the paper was to find out the modifications that can be made to the traditional Philips curve model in order to explain the recent economy.

Patrick Grady, "Background paper on Inflation and Unemployment" the main purpose was to examine the issue of tradeoff between inflation and unemployment. This paper has examined the issue of the trade-off between inflation and unemployment. The original theoretical model is the inflation-augmented Phillips curve of Friedman (1968) and Phelps (1967). According to this model, there is no long-run trade-off between inflation and unemployment, but instead is a natural rate of unemployment determined by real economic phenomena. Simply, the rate in which nominal wages change reacts negatively to the interval created between the actual and natural rate of unemployment and reacts in a positive direction with a coefficient of unity to inflation expectations. After too many examinations done through the paper it was showed the evidence which pretends that the natural rate of unemployment of NAIRU has shifted upwards over the decade of the 1970s on account of demographic changes in the composition of the labor force and revisions in Unemployment Insurance. The estimates of the NAIRU surveyed were in the 6 to 7 per cent range.

In an article in the Settimes website, Shkelqim Cani, the ex- governor of the Bank of Albania, gives his opinion about the economic situation of Albania, which is crucial and delicate. The financial crisis affecting Greece it is so close to be felt also in our economy, due to remittances. He refers to the monetary policies that should have been more aggressive in these two last years in order to prevent the alarming situation he predicts for our country's economy.

According to the paper of Hasan Mytkolli and Stefan Qirici, in the work "Aspects of a labour market in the Albanian transition, a qualitative and quantitative approach" which had the main purpose to analyze the expansion of unemployment in Albania during the transition period, resulted that almost every post communist country faced the same problems with little differences according to their traditions. The time period they did the research was very short and almost a decade ago though the conclusions are still relevant. According to their statistical analysis calls for the presence of the orientation towards better macroeconomic policies from the new state institutions which care for unemployment's affairs.

DATA AND METHODOLOGY

The study was mainly based on the Philips curve and the short run tradeoff between unemployment and inflation. The information for the regression analysis is at Table 1, where are all the data given for money supply, inflation rates and unemployment rates for period 1995 – 2011. Table completed by information taken by the World Bank and Instat, the only governmental institute of statistics for Albania.

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Friedman accepted that there could be a short-run curve due to a mismatch between inflationary expectations and actual levels. “The temporary trade-off comes not from inflation per se, but from unanticipated inflation, which generally means, from a rising rate of inflation. Friedman said the main cause of short term variations in the unemployment rate was inflationary expectations differing from actual rates. The trade-off could exist while inflation was rising, but only until inflationary expectations were adapted to the new economic circumstances. This implies that monetary policy can’t hold the unemployment rate without increasing inflation.

The data consist of three variables, 1 independent variable (Money Supply – used as the shock supply) and two dependent variables inflation and unemployment.

Regression Statistics	
Multiple R	0.832349
R Square	0.692805
Adjusted R Square	0.64892
Standard Error	7.628729
Observations	17

ANOVA						
	df	SS	MS	F	Significance F	
Regression	2	1837.505539	918.7528	15.78681	0.000258168	
Residual	14	814.7650496	58.1975			
Total	16	2652.270588				

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-35.622904	12.659	-2.81395	0.013796	-62.77458773	-8.47122	-62.7746	-8.47122
X Variable 1	1.3473568	0.2879	4.679991	0.000354	0.729878464	1.964835	0.729878	1.964835
X Variable 2	2.9621585	0.7991	3.706989	0.002345	1.248315429	4.676002	1.248315	4.676002

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

Multiple R shows the correlation between y and x, and it is 0.83, so 83 %.

When squared, the correlation is 0.69, so 69%. This indicates that 69% 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.

$$R^2 = 1 - \text{Residual SS} / \text{Total SS}$$

$$= 1 - 814.7650496 / 2652.270588$$

$$= 1 - 0.3071953 = 0.6928047 \quad (\text{which equals } R^2 \text{ given in the regression Statistics table}).$$

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

The slope coefficient has estimated standard error of 0.2879 for variable x (Inflation) and a standard error of 0.7991 for variable Y (unemployment)

The slope coefficient has t-statistic of coefficients/ standard error = 2.814

The slope coefficient has p-value of 0.013

The 95% confidence interval for β_2 is

CONCLUSIONS

Tight monetary policy and a prudent fiscal policy brought down inflation rates and restored a certain level of macroeconomic equilibriums. Starting from 2000, it has been continuously stated publicly that the objective of the Bank of Albania is the annual inflation rate at the end of the year, set as a band between 2-4 per cent. Seen in the table below where inflation rates were very high especially in years 1996 – 1998, this can be considered a success for BoA.

As per observations made minimum and maximum salaries have been increased from 18000 to 21000 and 88600 to 92700, changes made in July 2012. However, based on the inflation statistics this increases are not realistic. (Instat)

According to the regression analysis we can prove the findings of the literature researches on wage behavior and unemployment in Albania for 10 years .the Non-Accelerating Inflation Rate of Unemployment or natural rate of unemployment, which is believed to be consistent with the maintenance of a constant rate of inflation, the short term trade-off between both of inflation and unemployment in cases of a money supply shock we decrease inflation and the unemployment increases in higher levels, though in the long run this tradeoff is not existent. In the long run unemployment and inflation have been decreasing in during the last decade.

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LIST OF FIGURES

Source: World Bank and INSTAT

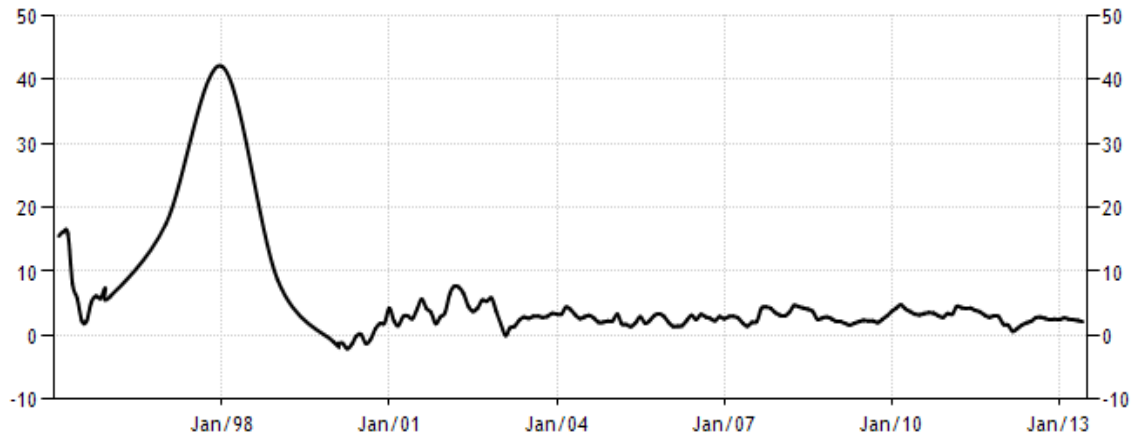
Years	Money Supply	Inflation	Unemployment
1995	51.8	5.6	22.3
1996	43.8	28.4	12.4
1997	28.5	13.9	14
1998	20.6	13.6	18
1999	22.3	4.5	16.8
2000	12	4.3	14.9
2001	19.2	3.5	17.1
2002	4.3	3.3	16.4
2003	8.7	3.4	15.55
2004	13.5	6	14.95
2005	14.1	3.5	14.65
2006	16	2	14.3
2007	13.7	2	13.3
2008	7.7	4.4	13
2009	6.8	2.4	14.05
2010	12.5	3.5	13.5
2011	9.2	3	13.3

ALBANIA UNEMPLOYMENT RATE



SOURCE: WWW.TRADINGECONOMICS.COM | BANK OF ALBANIA

ALBANIA INFLATION RATE



SOURCE: WWW.TRADINGECONOMICS.COM | INSTAT