

RELATIONSHIP BETWEEN INFLATION AND UNEMPLOYMENT IN ROMANIA, AGE GROUP 20-24 YEARS

Analysis

Keywords

Phillips Curve
Inflation rate
Unemployment rate
Natural unemployment rate

JEL Classification

B22, E24, E31

Abstract

Romania, like many other states, is affected by two major imbalances: inflation and unemployment. The article proposes an analysis of the inflation – unemployment relationship over time and particularly the coverage of this relationship in Romania, considering the age group 20-24 years. In order to identify this relationship, it will be used data from the National Bank of Romania and National Institute of Statistics. Based on the data collected, we will try to trace the Phillips curve. Also, the curve obtained will be analyzed and will try to identify the stage / stages in which it falls, steps taken by the Phillips curve in the postwar period and described by Milton Friedman.

Analysis of the relationship between inflation and unemployment

Both inflation and unemployment are imbalances affecting population. If we can say about unemployment that it directly affects only a part of the population (by the loss or inability to find a job), about inflation we cannot say the same. In the economic dictionary we find that "inflation is an overall economy imbalance which consists in the appearance or the increase of the gap between the money supply and demand of goods in comparison with the previous situation. The process can be determined by two major trends, closed interlinked: a general rise in prices and the declining purchasing power of money".(Dictionary of Economics,1999)."In 1975, D.E.Laider and M.J.Parkin define inflation as a phenomenon of continuous rise in prices or constant depreciation of the value of money "(Frisch, 1997). Each of these imbalances affects us and many economists have tried to show which of the two is "better" for the population. Some economists consider unemployment as the worst affecting the economy of a country and should be given more importance, but others focus on inflation.Many economists believe that "inflation can not be sacrificed on the altar of reducing unemployment due to its economic cost" (Daianu, 1993).

"A better society and simultaneously achievable cannot hope to reconcile a full employment labour with absolute stability of prices. It can, however, to do something to minimize the conflict between the two". (Galbraith, 1997). In the view of J.K. Galbraith, a company cannot operate with inflation and unemployment in the same time, it should make a choice between the two imbalances. He believes that the perfect society cannot condemn a part of its population to social suffering and inactivity in order to achieve price stability. Also, for a perfect society is preferable a low unemployment, a goal which cannot be

compromised. Over time, many economists have tried to emphasize the link between these two imbalances. Who looked for the first time at this relationship was Professor A.W. Phillips, in the UK. In 1958, A. W. Phillips published the article "The relationship between unemployment and the wages rate of change in Britain, 1861-1957", in which he showed the negative relationship between inflation and unemployment. (Fig. no.1 Phillips Curve)

Two years later (1960), the same problem has been analyzed by economists Paul Samuelson and Robert Solow, who demonstrated, using aggregate supply and demand, that there is a negative relationship between unemployment and inflation, as shown by A.W. Phillips. On short-term,Phillips Curve is a downward curve, and on long term is separated from the short-term Phillips Curve. They noted that on long-term unemployment and inflation concepts are not related . The analysis was continued by M. Friedman, who replaced nominal wage analyzed by A.W. Phillips with real wage, claiming that the existence of a demand or an offer in excess on labourmarket does not depend on nominal wage, but on real one. Later, inflation took the place of real wage in the analysis. In 1968, Milton Friedman and Edmund Phelps proved that on short-term inverse relationship postulated by Phillips Curve is valid. In the medium and long term, the curve is vertical, which means that there are no causation links between inflation and unemployment. The two economists have shown that the empirical relationship between unemployment and inflation will fall if the authorities will try to exploit it. In all the analysis done, they tried to prove that people are not interested in nominal variables in the economy, but in real ones. Some theories on the inflation-unemployment relationship were reviewed over time. Milton Friedman argues that the analysis of inflation - unemployment has gone through two stages in the post-

warperiod, preparing to enter a third stage. A first step certify Phillips's hypothesis that there is a stable negative relationship between the unemployment level and wage change rate, the second is the introduction of the natural rate of unemployment and accepting that, in the medium and long term, Phillips Curve is vertical, and the third step consists in integrating and explaining that the Phillips Curve has a positive slope and is not vertical. In different countries and periods was applied the negative relationship established between unemployment level and nominal wages change rate expressed by Phillips Curve and it was found that the rate of inflation, which seemed to be consistent with the unemployment rate, does not remain fixed. Also, due to government policies of full employment, inflation tends to increase over time and also varies from one country to another. The conclusion that emerged from these studies is that the inverse relationship between unemployment and inflation – the Phillips Curve - is applicable on short term, when we can speak of a substitution between inflation and unemployment, but this is impossible in the long term. The Friedman model concludes that in the short term, governments could reduce unemployment by rising inflation, but on long term, the intervention policy is ineffective because the Phillips Curve is vertical. The same conclusion can be drawn from the article published by John Taylor in 1979, as an extension of this research, emphasizing that on long-term, Phillips Curve is vertical. (Fig.No. 2 – Vertical Phillips Curve)

Inflation rate and the unemployment rate evolution for the age group 20-24 years in Romania

Any country in the world has been affected by the economic crisis. Romania has also been affected by this crisis, which is why the analyzed indicators have changed in this period. Of course this is the last event that

affected the Romanian economy, but not the only one. In the analyzed period, Romania has gone through the transition period to a market economy, which has led to significant increases in inflation and unemployment overall and in the age group of 20-24 years. Phillips Curve is an important tool because "it is used by central banks for forecasting inflation and interest rate setting." (Balaban and Vintu, 2010).

(Table 1. Evolution of total unemployment in Romania, the unemployment rate for the age group 20-24 years and inflation rate)

Methodology

Data provided by the National Institute of Statistics and the National Bank of Romania will be analyzed and according to them it will be calculated the relative change in the unemployment rate and inflation rate. This will lead to stating the relationship (positive or negative) between them.

Results

Analyzing the data in Table 2, we found that there are six years when unemployment rate change has the same trend with inflation rate changing (direct relationship), which leads to the conclusion that on the entire period analyzed, the negative relationship discovered by Phillips between unemployment and inflation is not verified. Also, if you look at the last period, the period of economic crisis, it is noted that one year is marked by the direct relationship between the two indicators (2010), and another year by the negative relationship (2011). (Fig.No. 3 – Phillips Curve in Romania, age group 20-24 years)

Conclusions

Looking at the above data, it appears that between inflation and unemployment for the age group 20-24 years it is neither a direct relationship, nor a reversed one. For the entire period under review it can be concluded that there are years in which it can be found the

inverse relationship postulated by Phillips, but also there are years when it cannot be verified. It can be inferred that the two imbalances react differently to economic policy measures, which is why at this time you cannot choose to focus your attention on only one imbalance and not noticing the other one. Following the steps of the analysis done by economists regarding the relationship unemployment rate - inflation rate and the evolution of these indicators in Romania (unemployment age of the segment 20-24 years), we find:

- the relationship between these indicators is not found in the first step, when there is an inverse relationship between the two variables (negative Phillips Curve) ;
- Phillips Curve is vertical in the long term
- we reach the third step in the analysis

of the relationship between unemployment and inflation, namely the observation that this curve is like a "spider web".

Bibliography

- [1] Balaban, G. & Vintu, D.(2010). Testing the nonlinearity of Phillips Curve. Implications for monetary policy. *Theoretical and Applied Economics*, Volume XVII, No. 4 (545), 95-109.
- [2] Daianu D.(1993) "*Economic balance and currency. Keynesianism and monetarism* ", Humanitas, Bucharest
- [3] Frisch, H.(1997). "*Theories of inflation*" - Publishing Sedona, Timisoara, pg.8
- [4] Galbraith, J. K. (1997). *Perfect society. On the agenda: the good man*. Publishing Eurosong& Book, Bucharest
- [5] Dictionary of Economics (1999), Economic Publishing House, Bucharest, 244.
- [6] http://www.bnro.ro/Regular_publications-2504.aspx
- [7] <https://statistici.insse.ro/shop/?lang=en>

Table No.1 Evolution of total unemployment in Romania, the unemployment rate for the age group 20-24 years and inflation rate

Year	Total unemployment rate (%)	Unemployment rate 20-24 years (%)	Inflation rate (%)
1996	6,6	16,4	38,8
1997	8,9	15,0	154,8
1998	10,4	15,9	59,1
1999	11,8	16,6	45,8
2000	10,5	16,7	45,7
2001	8,8	15,9	34,5
2002	8,4	19,6	22,5
2003	7,4	16,5	15,3
2004	6,3	18,2	11,9
2005	5,9	18,0	9,0
2006	5,2	18,6	6,56
2007	4,0	18,1	4,84
2008	4,4	15,8	7,85
2009	7,8	17,9	5,59
2010	7,0	21,2	6,09
2011	5,2	22,6	5,79
2012	5,6	21,2	3,33

Source: National Institute of Statistics, National Bank of Romania

Table No.2 Change in unemployment rate and inflation rate (percent)

Period	Unemployment rate (20-24 years)	Unemployment rate (total)	Inflation rate
1997 – 1996	- 8,53	+ 34,84	+ 298,96
1998 – 1997	+6,0	+ 16,85	- 61,82
1999 – 1998	+ 4,40	+ 13,46	- 22,50
2000 – 1999	+0,60	- 11,01	- 0,21
2001 – 2000	- 4,79	- 16,19	- 24,50
2002 – 2001	+ 23,27	- 4,54	- 34,78
2003 – 2002	- 15,81	- 7,14	- 32,0
2004 – 2003	+ 10,30	- 14,86	- 22,22
2005 – 2004	- 1,09	- 6,34	- 24,36
2006 – 2005	+3,33	- 11,86	- 27,11
2007 – 2006	-2,68	- 23,07	- 26,21
2008 – 2007	-12,70	+ 10,0	+ 62,19
2009 – 2008	+ 13,29	+ 77,22	- 28,78
2010 – 2009	+18,43	- 10,0	+ 8,94
2011 – 2010	+ 6,60	- 25,71	- 4,92
2012 – 2011	-6,19	+ 7,69	- 42,48

Figure No. 1 Phillips Curve

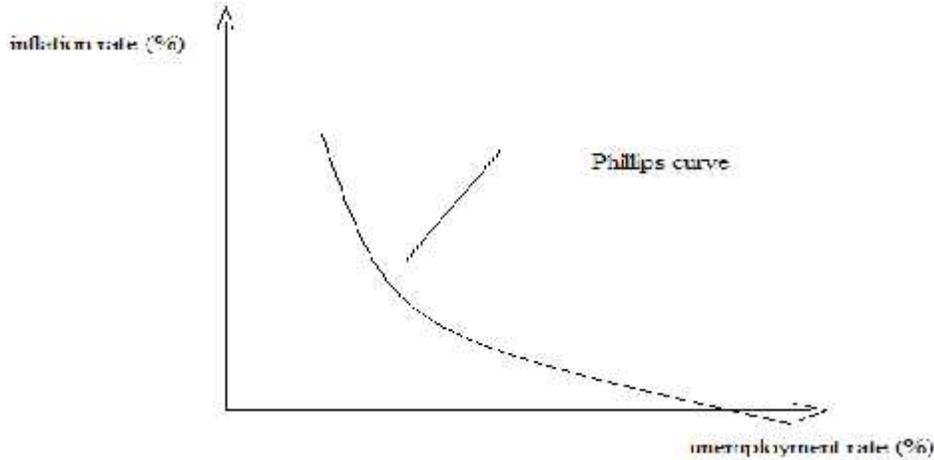


Figure No. 2 Vertical Phillips Curve

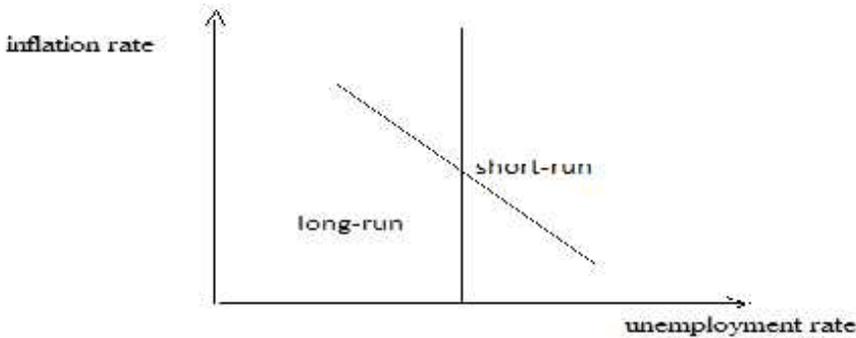


Figure No. 3 Phillips Curve in Romania, age group 20-24 years

