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MONETARY POLICY AND INFLATION CONTROL

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Abstract: - *One of the main goals of state intervention is to maintain price stability. There is no doubt that active use of monetary policy instruments (exchange rates, money supply, interest rate) has a significant effect on inflation. The most important monetary instrument for stopping inflation is money supply and its control. Therefore, interventions to increase liquidity in the economic circuit must be made with great caution. In this context, in this study we sought to achieve the most important problems related to inflation rate that exists in Romania.*

Key-Words: - *inflation rate, monetary policy, money supply, inflation control, stability price, policy instrument.*

1. INTRODUCTION

When starting the process of transition to market economy, the Romanian economy was characterized by strong imbalances, both in structural terms, but in the main macroeconomic variables, representing the main destabilizing factor in the application that generated inflation transforming moment-right - structural inflation, cyclical. Given that all other economic levers were practically impossible to use monetary policy has proved to be only able to give the stabilization measures.

Under these conditions, the National Bank's monetary policy was oriented towards ensuring price stability. It should be borne in mind that gradual liberalization has reduced the time transition costs, but long-term effects were felt acutely in maintaining the purchasing power of currency. Lack of confidence in

national currency reduced the demand for currency.

This reduction was accompanied by an increase in money supply, banks are interested in providing a lot of credit for the economy, according to the event "the illusion of cheap money." Lack of efficient management of resources of banks (rather scarce at the moment of starting the reform process) led, non-existence amid the interbank market, at the request of the system of refinancing resources to cover overdrafts. Thus, through these mechanisms, the National Bank has fueled the economy with excess liquidity quantity, highlighting, in fact, the transition from a restrictive to an expansionary monetary policy and vice versa, the overall situation in the first row of poor coordination between monetary policy and the rest components of macroeconomic stabilization policy. What was supposed to make money in the plan was to

restore confidence in its own currency, given that the economy is in transition, most often confronted with a strong dollarization.

Although it was considered as core stabilization policy should be represented by monetary policy, its effectiveness was influenced (obviously in the negative sense) the factors that were subject to the monetary authorities.

Experiences gained in terms of macroeconomic stabilization policy in the event of a powerful phenomenon inflationary conditions, shows that the efficiency of macroeconomic stabilization policy is driven by respect for the two essential conditions:

- Setting priority to a fundamental objective of macroeconomic stabilization policy, its going to be around other objects shape;
- Award of monetary policy the specific role of market economies, namely to ensure the stability of general price level.

In fact, these two conditions may overlap, meaning that the central objective of macroeconomic stabilization policy should be price stability, its central role in ensuring monetary returns.

One of the main goals of state intervention is to maintain price stability. It is no doubt that active use of monetary policy instruments (exchange rate, money supply, interest rate) has a significant effect on inflation.

2. MONEY - MONETARY POLICY INSTRUMENT

In Romania, control inflation through monetary phenomenon is complicated by acute demonetization of the economy which occurred in the years 1990 to 1993. At that time, because the practice of negative real interest rates and due to collapse of production, there has been a dramatic drop in money demand, as manifested by increasing the rotational speed of money to 8.6 rpm./year in November 1993.

In other words, because of distrust in the national currency, it had to cover more than 12% of GDP, while none of central European countries, this ratio had fallen below 30%. In late 1993, when it was decided to

relaunch confidence in national currency, while the problem was put remonetisation economy, meaning the money supply rising faster than inflation, currency until you get to cover again, about 40-50 % of GDP.

This process is quite complicated because remonetisation not turn into additional inflation just as long as GDP increases sensitivity and improves the demand for money in turn. Starting with the second quarter of 1994, money supply growth has outpaced the price rise, showing virtually ended the phenomenon of demonetization and began a reverse process, which means regaining public confidence in national currency. For example, in 1995, increasing the money supply by about 71% did not lead to an inflation of the same magnitude, but only about 30 percent inflation, precisely because of GDP growth by around 7% and decrease their speed by nearly 20 % (from 5.6 to 4.5 revolutions per year rotations per year). In 1996, noted a certain stabilization of rotational speed (4.9 revolutions per year). Manage monetary policy in 1997 to dampen inflation significantly.

Price liberalization undertaken in early 1997 was the last major phase of liberalization, as expected, continued to be sensitive to price fluctuations due to smaller and ever more structural factors. The robustness of monetary policy has been uneven, both over 1997, and shorter time horizons. Being the main anchor of the stabilization program, monetary policy has strengthened the early months of 1997, maintaining a strong character restricted to the beginning of the second semester.

Counting on calming inflation (inflation rate decreased from 30.7% in March from 0.7% in July) and assuming continuation of recovery in money demand, monetary policy has undergone a certain relaxation in the second half. This decision proved to be premature, given the general relaxation of macroeconomic policy, which stopped the return of confidence in the currency and even damaging.

In 1998, the economy continued remonetisation's growth far ahead of monetary inflation. Favorable signals suggest restoring confidence in national currency shall be made, however, questioned the conduct of people,



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whose economy surged at a rate lower than those recorded by the money supply as a result of the downward trend exhibited by interest rate and depreciation of domestic currency in real terms against the dollar.

Monetary policy is a basic component of state economic policy with the objective of ensuring a stable currency. Achieving this objective is through intermediary that broad money (monetary aggregate, in general), the exchange rate or interest rate. Overcoming the phase transition to a market economy in which they engage the countries of Central and Eastern Europe, Romania needs and thus achieve economic programs to conduct structural transformation of the economy and macroeconomic stabilization, which means the balance of payments and reducing inflation.

Among the strategies currently pursued monetary policy by central banks, inflation targeting has proved to be the best solution, compared to targeting a monetary aggregate (monetary growth) and the exchange rate. be taken into account that monetary policy has a diffuse and delayed impact on the economy. Inflation in Romania is strongly influenced by inertial forces. But expectations can not generate inertial inflation unless monetary policy is always accommodating these expectations. In Romania, expectations have a mixed nature, adaptive and rational; it was only now learning the transition from the public about monetary policy rules, however, having an amplitude distortion phenomenon in the economy.

Even if the central bank is politically neutral, any decision is taken at the central bank in an economic and political context has a political, macroeconomic decision are extremely complex processes involving several institutions, stages and methods of application.

Without controlling inflation at levels lower than the growth rate of broad money (M2) is widening recession, as happened in Romania with the exception of the years 1994 to 1996.

But money supply growth as a measure to mitigate the decline in production is not an option for sustained long-term changes in monetary growth and reducing inflation monetary dynamics maintains real recession. This is one of the reasons why monetary policy should be restrictive.

In Romania, however, a restrictive monetary policy needed to combat high inflation in recent years affecting the private sector more than the state, although the main causes of inflation is the latter, and private sector development is the only way to overcome stage societies.

The year 1997 confirmed that the monetary and fiscal policies must take account of external imbalances and the danger that developing countries should adopt an exchange rate policy very "flexible" to reduce the risk of speculation. Thus, restrictive monetary policy in 1999 will try to reduce inflation through exchange rate depreciation followed by a gradual stabilization of it, Quantitative objective for the annual inflation rate in 1999 was proposed by the Monetary Authority of 34.7% using the monetary base as operational tool. Inflationary process which accompanies the phase transition to a market economy in Romania is not a phenomenon uncaused, which is why his rule is complicated.

It is important that economic policy, monetary policy implication, to act consistently on the root causes by providing the public a convincing message. Attempts to stabilize the economy only through monetary levers, without a real

economic reform are ineffective and even dangerous in the long term (1994-1997).

In terms of a traditional deficit with foreign loans in 1999 returned \$ 5.2 billion and approximately \$ 1.5 billion in 2000, must be tested while still a shock-type approach can support the real economy. The solution can be sudden depreciation of the leu exchange rate, its nominal anchor to reduce inflation as is done by rigorous control of money supply in circulation.

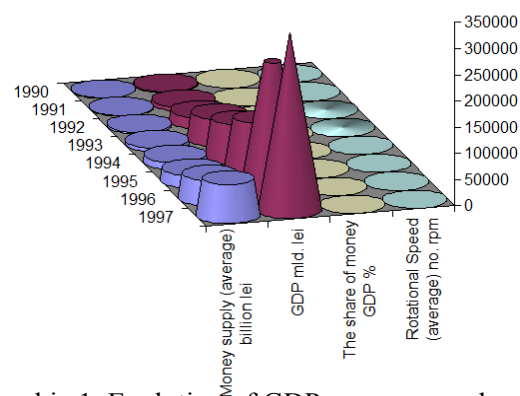
Given the situation in Romania, it is clear that currency depreciation leads to an appreciable improvement in the trade deficit. This impairment although it should be in line with inflation to avoid inflationary shocks corrective (which happened in February-March 1997 and March 1999) should not be delayed because it can lead to additional pressures on the exchange rate due to agents' preferences keep their savings in foreign currency and not in. Besides sparing agents induced pressure there will be a pressure generated by speculators.

I tried to find an answer to the question whether such monetary inflation in Romania. In the long term is safe, no major inflation can occur without a rapid increase in money supply growth and this will cause rapid inflation. Any policy that remains firmly lower money supply growth rate will subsequently lead to a low inflation rate. In Romania, however, inflation is largely structural in nature (technological, behavioral), low productivity, wage and price rigidity, normal for a country in transition.

To summarize, the causes of inflation in Romania is closely related to the real economy, its unrestructured leading to lack of competitiveness, hence the low quality of Romanian products reflected in reduced exports and imports massive, generating a vicious circle of inflation and exchange rate. In late 1993, money supply represented only 13.8% of GDP, which corresponded to a rotation speed of 7.25 money, the money supply at the end of 1995 represented 18% of GDP, w Evolution of GDP, money supply and rotational speed which corresponded to a rotational speed of 5,5.

Year	Money supply (average)	GDP	The share of money GDP	Rotation Speed (average)
UM	billion lei	billion lei	%	no. rpm
1990	478,0	857,9	55,71	1,79
1991	603,5	2203,9	27,38	3,65
1992	1209,6	6029,2	20,06	4,98
1993	2764,4	20035,7	13,79	7,25
1994	6652,2	49773,2	13,36	7,48
1995	13107,7	72135,5	18,17	5,50
1996	22219,5	108390,9	20,49	4,90
1997	45116,1	249750,2	18,06	5,55
1998	70212,3	338670,0	20,7	4,82

Table 1. Evolution of GDP, money supply and rotational speed



Graphic 1. Evolution of GDP, money supply and rotational speed

If a delay between the time when money supply growth and output growth in the real sector, the growth of broad money goes entirely to the price that will be found in a rise in inflation.

3. MODEL OF INFLATION FOR MACROECONOMIC STABILIZATION

The main assumption in this part of the proposed model, as is applicable in the case of Romania, is that monetary policy is established and managed by the central bank, which has so full independence of the instruments used - being free to choose without interference from government policy (Article .2 of the Statute of the NBR). Appropriate setting a target level, and hence of optimal central bank contract (Svensson,



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1997), which has operational independence, rather than independence objectives (freedom to set monetary policy goals). This delegation of monetary policy may be interpreted as a primary commitment (society)-agent (central bank).

The central bank considers monetary policy based on a loss function where it will take decisions, this function is of the form:

$$L^{BC} = 1/2[w \pi_t^2 + (Y_t - sY_t^*)^2] \quad (1)$$

Where π_t is the inflation rate during t (month) t , Y_t is the level's output, Y_t^* is the desired output level (at equilibrium), w is a stochastic parameter with mean 0 and dispersion constant $w > 0$; w is the relative aversion to deviations of inflation's output. If w is smaller, so there is a greater tolerance against inflation. At the limit, a central bank that cares's output level ($s = 1$), will produce zero inflation. Report a/w is the aversion to inflation, and hence will be as big. s is an output parameter that indicates's permissiveness to change the equilibrium level, $s > 0$.

The condition is that the central bank to minimize this loss (LBC) in line with inflation.

The study by M. Bruno and W. Easterly (1998) concludes that an annual inflation rate of over 40% (Inflation crises) lead to drastic cuts in output growth rate, which will be recovered quickly, however, after stabilization. Moreover, the econometric results by two economists argue that the stabilization of high inflation does not involve loss of output. Estimated Regressions for 12 Latin American countries (known for high rates of inflation) over a period of 30 years (1950-1985) showed that halving the rate of inflation has led to GDP growth by 0.4%.

Monetary policy impacts on output and employment in the short term but not long term, real economic contribution is needed

here. Monetary policy is thus a combination of an inflation target set ex-ante and a discretionary response to certain shocks. These shocks are those where the central bank may respond before the private sector to adjust its business. After numerous changes in the relationship described by Phillips in 1958 on the existing negative correlation between inflation and unemployment, it was also finding an inverse correlation between output and inflation, but only short term. We write so conventional after Lucas supply function, using rational expectations:

$$Y_t = Y_t^* + h(\pi_t - \pi_t^e) + \varepsilon_t \quad (2)$$

Where π are the expected inflation for period t and ε_t is the supply shock (or a modification of terms of trade shock to productivity). ε_t is not observed by individuals when forming their expectations, but the authorities before it can be observed to determine policy. Thus, inflation may offset the shock.

You must keep in mind however, that rational expectations are unrealistic during a transition period when there is learning about monetary policy rules, however have a magnitude events distorted the economic. Be so kind as having mixed expectations: being both adaptive and rational:

$$\pi_t^e = \nu(\pi_{t-1} - \pi_{t-1}^e) + \gamma \pi_t \quad (3)$$

making an extrapolation of inflation:

$$\pi_{t-1}^e = \pi_{t-2}$$

we obtain:

$$\pi_t^e = \nu(\pi_{t-1} - \pi_{t-2}) + \gamma \pi_t \quad (4)$$

It remains to determine the equilibrium level of May's output, which is found in the IS-LM model (Hicks-Hansen) for an open economy: Equilibrium in the goods and services (IS):

$$Y_t = k' [A_t + (\beta - \alpha)E_t - gr] \quad (5)$$

Money market equilibrium (LM)

$$L_t = L_a + l_1 Y_t - l_2 r = M_t$$

Where E_t is the average exchange rate (real) in

period t and M_t is real money and $k'=1/[(1-c)(1-t)+m]$, c is the propensity to consumption tax rate is t , m is the marginal propensity to import, α , β are sensitive export and import to change the exchange rate, g is the sensitivity of investment in relation to interest rate, l_1 , l_2 are the sensitivity of money demand in relation to income, ie interest rate; $\alpha < 0$; $\beta, c, t, m, g, l_1, l_2 > 0$. By replacing the interest rate (r) in the second equation is obtained first:

$Y_t^* = [kA_t - (gk/l_2)La_t] + k(\beta - \alpha)E_t + (gk/l_2)(M_t)$ (6)
where $k=1/[(1-c)(1-t)+m+gl_1/l_2]$ or simplified writing

$$Y_t^* = a + b E_t + d M_t \quad (7)$$

where $a = kA_t - (gk/l_2)La_t$, $b = k(\beta - \alpha)$ and $d = gk/l_2$ ($b > 0, d > 0$).

The central bank may choose to conduct its monetary policy program for the control of inflation between use as an operational objective of monetary aggregate (M2 or the monetary base M0) or exchange. You can set so that the anchor or exchange money in the first case the exchange rate will be kept stable or allowed to fluctuate in a band in the second case is similar producing monetary dynamics.

Inflation control via control unit assumes the stability of M2 velocity of money. Estimates have shown that output growth is significantly correlated with the element's money. But as between the change in the level of money supply and inflation changes is a lag, during this period of time can produce a change and the elements determining the speed of rotation of money, especially confidence in the ability of monetary authority to practice anti-inflationary policy.

Monetary control involves the control of its components, the difficulty is that in an economy in transition, changes in variables can not be known beforehand, the functional relationships described are not stable and the disturbance affecting the financial market does not follow a normal distribution law. CB loss function can now write place:

$$L^{BC} = 1/2 \{ w \pi_t^2 + [Y_t^* + h(1-\gamma)\pi_t - hv(\pi_{t-1} - \pi_{t-2}) + \varepsilon_t - s(a + bE_t + dM_t)]^2 \} \quad (8)$$

By minimizing the current period we get:

$$\partial L^{BC} / \partial \pi_t = 0$$

$$\Rightarrow w\pi_t + h(1-\gamma)[(1-s)(a + bE_t + dM_t) + h(1-\gamma)\pi_t - hv(\pi_{t-1} - \pi_{t-2}) + \varepsilon_t] = 0 \quad (9)$$

Target level of inflation will be:

$$\pi_t = \rho_1(\pi_{t-1} - \pi_{t-2}) + \rho_2 E_t + \rho_3 M_t + \rho_4 \quad (10)$$

where $\rho_0 = h(1-\gamma)/[w + h^2(1-\gamma)^2]$, $\rho_1 = hv\rho_0$, $\rho_2 = (1-s)b\rho_0$, $\rho_3 = (1-s)d\rho_0$, $\rho_4 = [(1-s)a - \varepsilon_t]\rho_0$.

If there is a target level of inflation and it is known ex ante by the economic subjects (they account for a likelihood ratio to reach the stated goal of the policymaker), then the credibility of monetary policy is maximum tolerance level when actually of inflation during the period from its target level is minimal.

In specific circumstances the period of transition, monetary policy impact on certain factors is small, so the monetary authority's ability to control a certain level of inflation is limited to operate only in the short term. Monetary policy is subject to the influence of a variety of exogenous factors, so any prediction it has a high degree of uncertainty. However, the monetary authority may propose specific targets (lower inflation, stable exchange rate of national currency) and to shape policies in a manner to achieve them. Because prices respond with a lag to any economic shock, the objective of price stability implies an interest rate increase immediately after a shock and not to expect prices to rise.

Continuous attention should be paid to the three elements in particular, possible monetary policy instruments:

1. Interest rate to be positive in real terms, it influencing short-term exchange rate (the interest rate is higher as compared to inflation, the country's currency is requested, so determined),

2. Money it to grow faster than the inflation rate leads ceteris paribus - slowing down the rotation of money up to a level considered "normal" 3-4 turns per year, and

3. Exchange rate. Central bank decisions should cover two aspects:

-How to control money supply and interest rates and

-Whether to fix the exchange rate or let it float.

Therefore, a monetary policy rule should be made based on:



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- identify operational instruments - interest rate or monetary base;
- end point;
- loss function which can add a cost for larger deviations from the target. For example, it may be important for the central bank to slow the rate of change reputedly discounts without large movements and sharp turns to avoid creating uncertainty in financial markets.

Policy makers must also be familiar with lags, to estimate future values of the variables in the absence of monetary policy actions, to know what external shocks may hit the economy and their impact will be.

4. CONCLUSION

The most important conclusion is that the most important monetary instrument for stopping inflation is money supply and its control. Therefore, interventions to increase liquidity in the economic circuit must be made with great caution. Deterioration (for increasing) rate of money and the negative evolution of production (the downside) but

may weaken or even undermine the ability of monetary policy to control inflation. Monetary policy must take into consideration the manner in which control or reduce the amount of money in circulation affects the speed of rotation of money and especially the production and supply of goods on the market.

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