

Topic: Monetary transmission – Case of Albania

- I. Considerations on Inflation Targeting (IT).**
- II. Monetary policy and inflation in Albania versus Inflation targeting.**
- III. Transmission mechanism: its features in Albania .**
- IV. Transmission mechanism: its empirical approximation in the case of Albania.**

I. Considerations on Inflation Targeting.

Inflation targeting is one of the monetary policy regimes that serves a central bank to control inflation. Some economists consider it as a modern strategy, not only because of its start going back to '90s, but above all, due to the role it plays in keeping moderate levels of inflation. However, the “young” age, is considered by some researches as a problematic aspect, since it bears, to some extent, the risk of a non-rich experience, being reflected in the degree of credibility of this monetary policy regime. Therefore, it is just the element “credibility”, which, being very important for the central banks, may incur swings, or even “shocks” due to unpredicted deviations of targeted inflation rate from the actual one.

Notwithstanding the above problem, the application of Inflation targeting in most industrialized countries, being adopted for some years, has proved to be a monetary strategy with a very important role in controlling inflation or keeping it in low levels. Therefore, this regime has raised the interest of monetary-policy-making-environment to further extend it in other countries, especially in transition economies. It is assessed that this form of controlling inflation is fruitful, especially in the countries where actual inflation rates have rested over the targeted rates for a relatively long period of time. As such, the regime enjoys a positive quality, that of the “organic stimulator”, which, being found in a proper macroeconomic environment, orients the central banks’ monetary policy towards the maintaining of inflation within the pre-determined bands. Therefore,

the decision-taking relates to an entire judgement process by the policy-makers regarding the degree of matching the future expected inflation with inflation target announced in advance.

In most cases, the decision-making authorities announce a future inflation target band, aiming at price stability. Nevertheless, if inflation in the subsequent period (1 or 2 years later) is outside the announced target band, then something is wrong with the monetary policy, and therefore, something needs to be changed so as to enhance its effectiveness.

The process of forecasting inflation and determining its band passes through an entire analytical stage and is finalised in building a model that takes into account the most substantial links between economic indicators, which finally manage to influence the expected inflation.

However, the fact that there exists a certain group of unpredicted phenomena, whose effect makes the expected inflation result outside the band, makes necessary for a central bank to measure, besides the total inflation, even the core inflation, which is an indicator that leaves inflationary pressures, which are beyond the control of monetary policy, outside the attention.

The transparency in measurement is assessed to be another important element of Inflation targeting simply because the success of this regime depends upon the fact whether the private agents, households, public, will generally accept or not the officially announced target. This means that the actors of a country's whole economic activity should be able to establish mid-term micro-strategies, which will serve the economic activity growth under acceptable conditions of price stability. Most countries that have adopted this regime, have initially presented strong measures to serve the enhancement of credibility, including open discussions of policies and interpretations of economic data.

A determining feature of Inflation targeting is that the intermediary target, the future inflation, is not a surveyed variable. Thus, from an operational viewpoint, Inflation targeting may be considered as a two-step process. First, the monetary authority makes an inflation forecasting to estimate whether inflation, under the current monetary

policies, will rest within the target range or not. The second step appears into stage if the future inflation is expected to result outside the target range. In that event, a well-defined rule, which links the decision-making process with the projected inflation, should determine the conduct of monetary policy instruments, enabling the orienting of the projected inflation towards the target range.

By definition, Inflation targeting is a mid-term monetary policy that implies five principal elements:

- 1) Public announcement of a mid-term inflation rate, as a target to be achieved;
- 2) Institutional commitment for price stability, as a primary monetary policy target, where all the other targets depend upon;
- 3) Establishment of a strategy to include numerous variables, not only monetary aggregates or exchange rates, which are used to determine the policy framework of instruments;
- 4) Transparency enhancement of monetary policy strategy, through communicating to the public and market on the plans, targets and decisions of monetary authorities;
- 5) Increase of central bank's responsibility to achieve its inflation targets.

Considering the so-far experience, "the indispensability of public announcement of inflation target rate" constitutes "the body" of this definition, whereas the four other elements may be compared as constituting the big skeleton's "limbs" of the central bank's mechanism or monetary policy.

The construction and disclosure of the band constitutes one side of Inflation targeting, whereas its success depends upon many other factors. It should be underlined that one of the prerequisites that provides success, the matching of expected inflation with the targeted inflation, is that the application of such a regime does not necessarily

imply the existence of an enduring link between currency and inflation. This strategy does not depend upon such a link, but instead, it uses the whole possible available information to determine the best group of monetary policy instruments, which finally provide impact on inflation.

In conclusion, it is defined that inflation targeting regime, in essence, is a forecasting process that analyses the internal dependency and inter-dependency between economic indicators, step by step up to macro-links level. Their construction logic leads to the building up of a model that “vests” and explains as completely as possible the paths, through which monetary policy decisions pass, as well as the effects they provide, being finalised in the attainment of an inflation target. Thus, a very positive feature of inflation targeting is also highlighted: It is easy to be comprehended by the public and simultaneously, it is a regime with a fairly transparent mechanism.

On the other hand, the existence of transparency and the requirement on enhancing it leads to the increase of central bank’s responsibility to the public. The constant success of monetary policy, made concrete in attaining the announced inflation target, even in the absence of well-defined legal standards for evaluating or rejecting it, would lead to the creation of public support for an independent central bank.

According to some authors, Inflation targeting is considered to be a more effective strategy, only if it is applied after a relatively long disinflationary period or a low inflation period. At the same time, it is rational to be applied for a basket of goods and services, where those with administratively controlled prices are not considered in calculating the price index, which will serve as an inflation target. (The case of Czech Republic). It is just the case of most transition and developing economies, whose CPI is calculated by including this category of goods and services as well. In most of transition countries, in their way to economic market reforms, the administrative interventions for further price liberalization may cause deformations of inflation indicator, which do not relate to the monetary policy effects at all. In such cases, if the implementation of Inflation targeting is projected as a central bank’s mid-term strategy, it is necessary that a high coordination level of decisions between monetary and fiscal

authorities must be ensured in advance regarding the term and extent of future changes in controlled prices.

The considerations on the monetary policy of Inflation targeting regime should not be separated from those of fiscal policy and financial position in an economy. Furthermore, the economic development of a country is considered as stable if supported by the goals: financial stability and fiscal consolidation. Together, they comprise the foundation of success of every monetary policy strategy. It is an indispensable requirement that these goals find their best position possible, in such a way that they serve as sound prerequisites of projecting the Inflation targeting strategy.

The space of important considerations on Inflation targeting can not be separated from the exchange rate regime, which is an as much important aspect. Inflation targeting requires a floating exchange rate, whose oscillations are inevitable. The sharp and speculative depreciation may increase the debt weight expressed in dollars, which would lead to a deterioration of the balance sheets, increasing the risk of financial crises. In the cases of partially dollarized economies, such a strategy may not be stable. Therefore, cautious adjustments should be undertaken on controlling the financial institutions, in such a way that the system be able to resist the exchange rate shocks.

Concluding these considerations, we would emphasize that the presence of multiplied relationships in economy, makes possible that even economic policies, especially monetary policies, be extremely cautious in the judgement on future inflation rates. This is one of the reasons that they, along with the need for more transparency, have shed light on inflation targeting, an interesting, why not even fruitful alternative of controlling inflation, a possible challenge on monetary policy regime that the Bank of Albania will pursue in a mid-term period.

II. Monetary policy and inflation in Albania versus Inflation targeting.

The above considerations on inflation targeting bring to attention of experts, researches, policy-makers, and decision-makers, that the process of inflation targeting can not and must not be considered as a simple one. The transition countries are referred to here, where time after time economic and structural problems occur, which are undoubtedly reflected in certain difficulty levels during their integration process. One of them is Albania, where positive endeavours towards the difficult way of adopting Inflation targeting regime, do not lack.

We base the above assertion on the monetary policy evolution and on the somewhat stable performance of inflation during 1992-2002.

II. 1. General considerations on the monetary policy of the previous decade pursued by the Bank of Albania

Initially the monetary policy in Albania was worked out and applied by mid 1992, when, some decisions were introduced for the first time as part of the IMF agreement to support Albania, decisions that aimed at exerting control on the demand for money by using direct instruments of control. Since the first Law on the Bank of Albania, it was defined that its main target is the maintaining of national currency value and therefore, the maintaining of consumer price stability.

The Bank of Albania annual report of 1992 mentions that the definitive monetary policy target is the consumer price stability, the increase of output and the providing of a full balance sheet in the external position of the country. Base money was selected as an intermediary target, while two basic instruments of monetary control were: credit limit and interest rate on Leke time deposits with the state-owned banks. Since July 1992 and onward, a “floating” exchange rate regime has been adopted, while the transactions in the current account were totally liberalized. These measures, along with the adopting of a tightening fiscal policy and the deregulation of most consumer prices led to an immediate restraining of further imbalances of macroeconomic equilibrium.

Drawing some general conclusions on the period of 1992 – 2000, we may underline that the monetary policy is generally characterized by:

- ❖ **A final explicit target, that is the maintaining of price stability.** The country's economy development has followed up the observance of quantitative inflation targets at year-ends. Nevertheless, the rationale used to set such a wanted target, has never been transparent. What is more, even the ways to achieve this stability have generally been unclear. It is concluded out of estimations of 2000 that during the whole period no strong link is discovered between currency increase and inflation. Even though, at most data provided by time series, the planned level of monetary aggregate increase does not comply with the actual levels, inflation is kept under control (frequently, significantly below the target).

- ❖ **Setting an intermediate target on currency increase.** The money increase is regarded by the Bank of Albania as an intermediate target, which will lead to the final target meeting. Actually, the money (base money) is the only indicator that may be entirely controlled by the Bank of Albania. In spite of this, as stated above, the relation between this indicator and inflation has not resulted to be strong, and therefore, other factors, highlighting exchange rate, are assessed to be more direct determinants of the behavior of inflationary pressures in economy.

- ❖ **Application of quantitative restrictions on asset side.** Since the second six-month period of 1992, there were placed ceilings and floors on the position of such indicators as: net foreign assets of the Bank of Albania (floor), the banking system net domestic assets (ceiling) divided into net credit to government and credit to economy. The so-called criteria for achieving success continue to be used even at present, though somewhat unlike the first years of transition. Without referring concretely to the type of those currently used, we would emphasize that at least for the period of 1998 –2000, the three quantitative objectives are realized close to the targets set, while the actual realization of monetary indicators, especially those of reserve money and monetary aggregates, is far from their programmed level.

- ❖ **A direct control on money.** Only during the third quarter of 2000, the application of direct monetary control instruments was definitely abandoned, when the Bank of Albania Supervisory Council decision left “outside the game” the minimum level of interest rate on Leke time deposits with second tier banks having state-owned capital. Meanwhile, the restrictions in extending new credit were abolished at an earlier stage.

- ❖ **A high position of credit to government.** Initially, by direct ways and later on by issuing treasury bills, it was managed that the major part of government debt was purchased by the banking system. In this way, the budget was transformed into the biggest “consumer” of money. Recently the basic Lek interest rate is that of twelve-month maturity treasury bills yield. A reduction of the demand for money by the budget would decrease the treasury bills yield and vice-versa. An increase of the demand for money by the government would increase the treasury bills yield, in spite of the fact whether the Bank of Albania will increase or decrease the repo rate in money market. The change in the interest rate by the central bank, finds its market embodiment in changing, in the same direction, the credit rate, investment in securities, fixed asset price, general expectations, etc. It is understandable that, in the case of our country, having an undeveloped inter-bank market, an extremely focused primary treasury bill market, and a formal credit market where foreign currency is borrowed more, the signals of the central bank are difficult to “penetrate” in the “terrain”, and therefore, even the efficiency remains modest.

- ❖ **A lack of clarity and a low efficiency of monetary transition mechanism.** Since the third quarter of 2000, the Bank of Albania started to control the money supply through the application of indirect instruments, repo auctions occupying the most important part in the money market. In fact, the story of applying indirect instruments is earlier, since mid 1992. Nevertheless, it should be stressed that their effectiveness has been low and in all cases, mainly the decisions are transmitted through administrative interest rate. This is true as long as the restraining of further inflation increase is tended, since over

other periods, when monetary policy smoothing is attempted, this measure has also resulted as ineffective. From this viewpoint, it is right to raise the question: Will the repo rate be able to convey the Bank of Albania decisions to economy? The answer to this question is relatively difficult. The monetary market, in spite of the Bank of Albania efforts, is still an undeveloped, inflexible, unstable market. The number of transactions in it is still small, where one party is mostly the Savings Bank, and the volume of transaction carried out does not constitute any significant amount. In fact, for many years the state budget has continuously been the “absorber” of excess reserves. The banking supervision restrictions have impeded banks with large lending capacity (NCB and SB) to finance the economy, and therefore, all their excess reserves are transformed into budgetary spending. This situation has enabled that even the treasury bill market be a market dominated by the Savings Bank, which is reflected in maintaining a relatively high difference between the treasury bills yield and banks’ cost. Though for some time the market is regulated through repo sale-purchase, it is unclear whether there exist any optimal level on excess reserve position in the system.

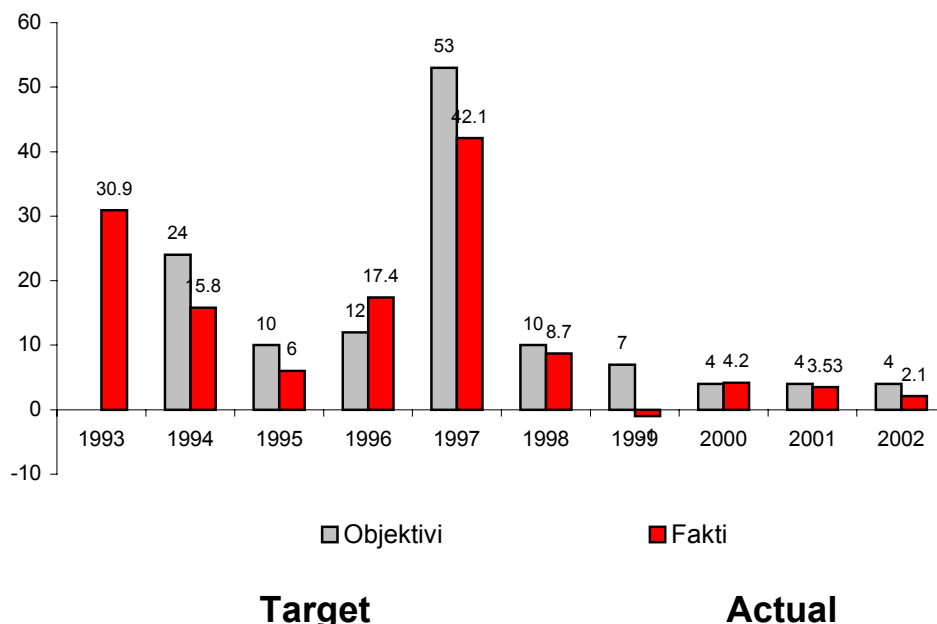
II.2. Inflation in Albania and Inflation targeting regime

The series of inflation in Albania, though taking part in the group of the most long-lived series of macroeconomic indicators, is still considered as being new in age. This has to do with the history of establishing market economy relations in our country, a history that started a decade ago. Talking practically about inflation or consumer price jump before '90 in Albania was nothing else but heresy. Whereas today, not only do we talk about it but we are also able to measure it, control it satisfactorily, analyze it ever more and project the implementation of adopting monetary policy regimes for forecasting it. The latter one has to do mainly with the ambitious project of the Bank of Albania to control inflation in a mid-term period by means of inflation targeting.

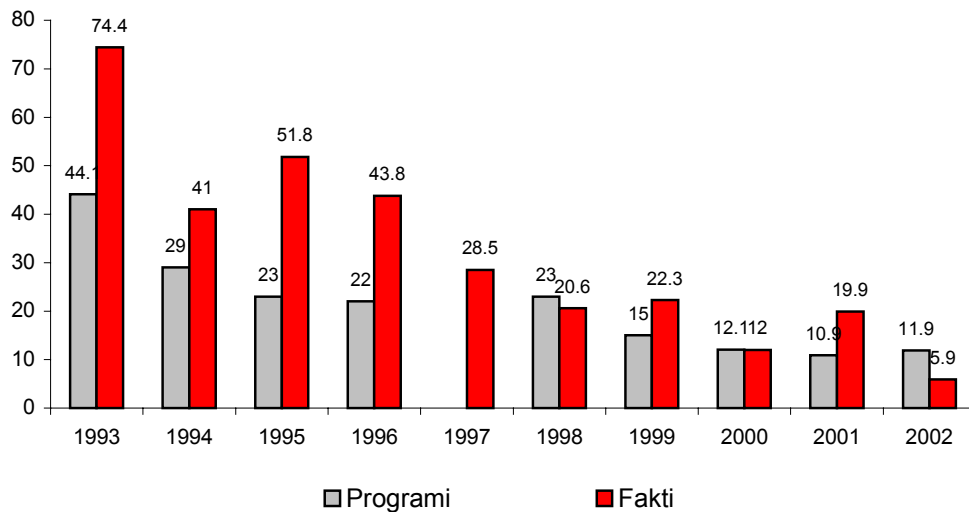
In general, the literature recommends that a period of 2 to 3 years with low inflation should precede the adopting of inflation targeting regime, considering as low an inflation rate that fluctuates from 1-3 per cent. It is reasonable that in the way to projecting such a regime, there should be studied the relationship between actual inflation and inflation stipulated in the government programs. The study of deviations and trends of this indicator, on the one hand, and its relation to the factor “money supply” on the other, should constitute the preliminary basis of central bank research to issue the arguments that support and oppose the adopting of such a regime.

Given the above theoretical considerations, it is noticed (in Graph 1) that the actual inflation has been lower than inflation target, in all cases, except 1996, while for some years, including 1999, it has been far from inflation target. A similar phenomenon, but with opposite direction, has occurred even with the increase of money supply (measured by monetary aggregate M3 (see Graph 2), where it is observed that in all cases the actual increase of aggregate M3 is greater than the programmed range.

Graph 1: Annual rate of actual inflation and its target (in %) (1993 – 2002).



Graph 2: Money supply increase as a twelve-month change (in %) (1993-2002).



Programmed

Actual

The two graphs present a kind of paradox: the money supply increase higher than the programmed level has led to a reduction of inflation below the target?!

Different researchers¹ have concluded that the relation between money and inflation is weak: other factors are deemed to influence more strongly on inflation, exchange rate being the most important one.

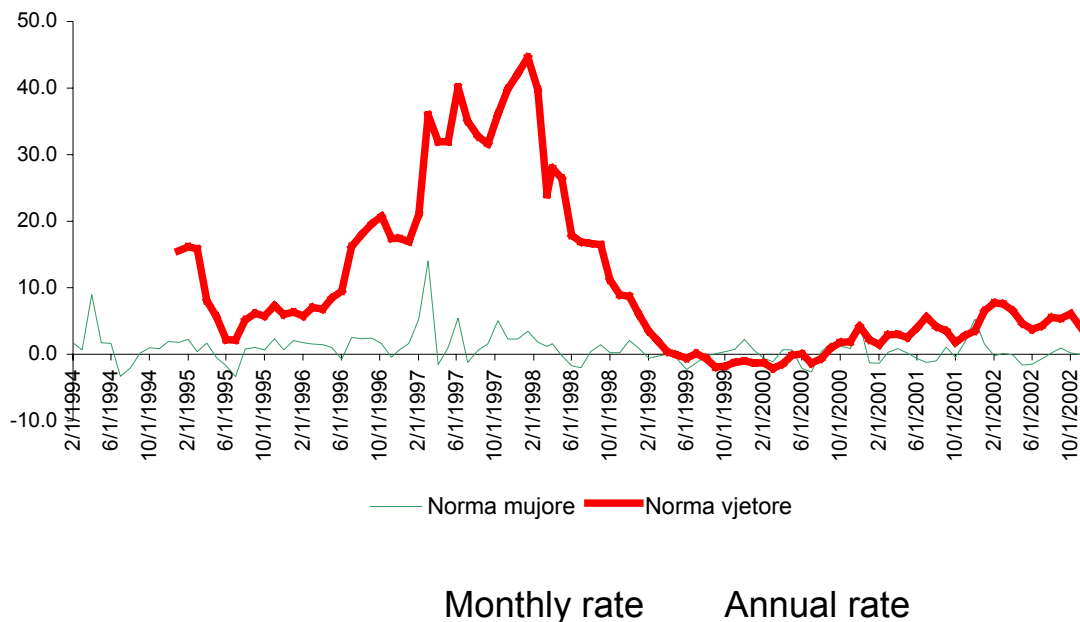
Nevertheless, finding the answer to the above questions is really an integral part of a strategy compiled on inflation targeting principles. Based on the so-far inflation, we may state that there exist the premises for applying an inflation targeting regime.

Box 1: Some history...

¹ Herder & Mytkolli; Kunst & Luniku (1998); Kolasi, Çeliku & Hashorva, 2001.

Inflation started to be measured in December 1993, on the basis of a basket of goods and a consumption structure that resulted from the survey of the budget of Albanian households in 1993.

Graph 3 : Annual and monthly inflation rate (1994-2002) in %.



Since that time until now inflation has pursued a way in the form of a spiral. After reaching the one-digit level at the end of 1995, there was a threefold jump a year later and until the end of 1997 it reached the highest peak ever recorded until then, to 42 per cent. This shock derived as an inevitable result of the crisis triggered by the collapse of pyramid schemes in Spring 1997.

Year 1998 was a period of recuperating it and putting it under control by the central bank. Not more than after a year, in December 1999, its annual rate 8.6 per cent was reached. Year 2000 was generally featured by the annual inflation rate with negative value, that is a whole period of “quietness” for it. But, this quietness did not continue for long. In fact, since year-end 2000 the central bank warned that the country’s economy was entering into a stage where inflationary pressures were being intensified. Furthermore, the Bank of Albania research evidenced the upward tendency of inflation: its behavior in time was warning of increasing rates, which became even more

underlined as the time passed by. Though under a constant and very cautious control, the high annual inflation rates marked during some months of `2001 and `2002 in general can not be left without mentioning.

Year 2002 marked an innovation in inflation measuring process. Now, the basket of consumer goods and their respective weights do no longer belong to `1993. Inflation of this year is measured on the basis of a review of the goods basket and their relevant weights. The survey of the households' budget in 2000 highlighted structural changes, statistically important in the consumption of our families. Since December 2001, the substitution of the old basket with a new one, assessed as reflecting more realistically the consumption structure within the household budget, constitutes the basis for measuring inflation.

III. Transmission mechanism

Given the above analysis, it is concluded that the relations of inflation with other macroeconomic indicators and the detailed analysis of these relations would enable the finding of monetary policy instruments that convey its signals more rapidly and more effectively, in order to keep inflation in its target rate. The entirety of such relations is reflected in monetary policy transmission mechanism scheme, which describes the paths of monetary policy decisions.

III.1. Features of transmission mechanism: Case of Albania

Given the above analysis, it is concluded that the relations of inflation with other macroeconomic indicators and the detailed analysis of these relations would enable the finding of monetary policy instruments that convey its signals more rapidly and more effectively, in order to keep inflation in its target rate. The entirety of such relations is reflected in monetary policy transmission mechanism

scheme, which describes the path of monetary policy decisions towards an inflation target.

As it was also treated above, the monetary transmission mechanism in Albania is presented to some extent as unclear, and as having a low efficiency.

Some of the factors that are deemed to have determined and still determine such development stage of transition mechanism are:

- Dominant position of the Savings Bank in some aspects: in holding deposits in lek, in treasury bills market, in money market, etc;
- Restricted role of credit in lek;
- Somewhat high difference between credit rates and deposit rates;
- Limited inter-bank market activity;
- High amounts of cash in the hands of the households (lek & foreign currency);
- Income on immigrants' remittances (income in foreign currency);
- Monetary control is achieved by using direct instruments of control at most of the decade.

In spite of the above problems, efforts are made by different researchers time after time, who have resulted in empirical studies and analysis, explaining the process of inflation formation in economy and the factors that have strongly influenced on this indicator². Furthermore, the efforts are finalized even in compiling various schemes of monetary transmission mechanisms.

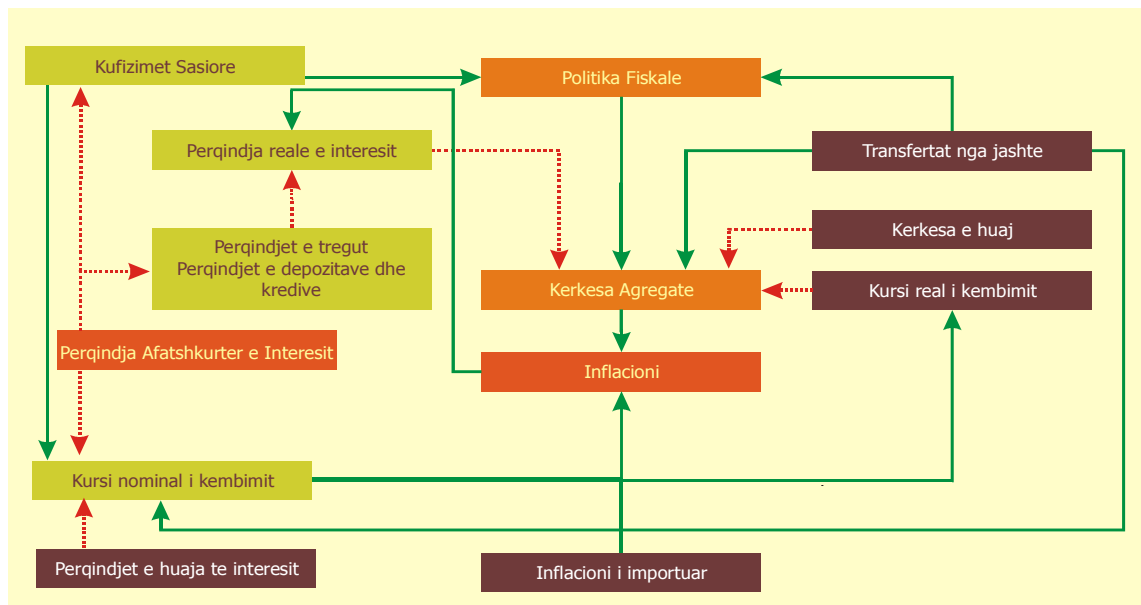
² Mc.Neilly Schiesser (1998); Helbirt & Domac (1998); Karla (1999); Mytkolli & Haderi (1999); Svensson (1999); Levin (2000); Kolasi (2000); Kolasi, Çeliku & Hashorva (2001); Sanfey, Muço & Luçi (2001); Hledik 2001, etc.

Currently, it is believed that the repo rate plays the role of the primary instrument, while the targeting of minimum monetary indicators still continues (quantitative restrictions on the asset side).

III. 2. Transmission mechanism: its empirical approximation in the case of Albania

In the following you will find an appropriate form of monetary transmission, an alternative that wanders around some economic goals that are considered as more important, to conclude to an empirical approximation explaining the current mechanism of monetary policy transmission.³

Figure 1: Monetary transmission mechanism scheme.



Quantitative restrictions
 Real interest rate
 Market rate

³ The basic scheme is worked out by T. Hledlik (2002), but it is enriched with some additional elements by the authors, highlighting the use of monetary variables.

Deposit and loan rate
Short-term interest rate
Nominal exchange rate
Foreign interest rates
Fiscal policy
Aggregate demand
Inflation
Imported Inflation
Foreign transfers
Foreign demand
Real interest rate

Some details as regards to Figure 1 would clarify the transmission mechanism:

First, the broken lines indicate links that are not argued well yet, while the full lines indicate transmission channels to a certain extent efficient;

Second, there is evidenced a weak relation between short-term interest rate and inflation;

Third, it is accepted, and it is verified to a certain degree that the nominal exchange rate, fiscal policy, transfers from immigrants, etc., exert a more complete impact on aggregate demand and on inflation itself;

Fourth, even though the nominal exchange rate is not a nominal anchor, yet it seems that the short-term interest rate behavior influences it;

Fifth, there is noticed the lack of capital, security, fixed assets market, etc.

The above scheme serves us to outline a small macroeconomic model. To make it, we have made use of the experience applied in modeling the monetary transmission mechanism for small and open economies.

Albania's case may be considered as one among them, due to the fact that though Albanian economy has had a satisfactory growth

during the previous decade⁴, yet it can not be asserted that domestic economic developments are conveyed with considerable impacts even on other countries. This aspect notwithstanding, our economy is considered as an open one due to the high range of imports.

The model is considered as simple, since it tries to modestly capture the most important links between the main indicators in Albanian economy, to a certain level of aggregation. The econometric estimation of the model is applied on a structural form, constructed on the basis of quarterly data or time series.

Data Problem

We would emphasize here the problem incurred with the data needed to build models in general and concretely the model offered. It is assessed that one of the most problematic aspects in economic modeling is the “emptiness of economic statistics” that can be translated into:

- ❖ Complete absence of indicators, a problem which is mostly sorted out by substituting them through intermediate or even calculated indicators;
- ❖ Partial lack of indicators, that may be sorted out to some degree by statistical approximating techniques, underlining the interpolate and extrapolate ones; statistical estimates of indicators, which convey in themselves a certain degree of approximation;
- ❖ Adjustment of indicators frequencies, converting them from the annual periodicity to quarterly or monthly and vice-versa. Even in this case, the degree of approximation is well acceptable;
- ❖ Frequently underlined lack of stationary position, which mostly encroaches the enduring forecasting in the mid- and long-run, an obvious problem in Albanian macroeconomic series. The presence of a non-stationary state is minimized in the current

⁴ Year 1997 is excluded.

model. Nevertheless, under the conditions of short time series, the process that “repairs” the non-stationary position to some extent, reactivates simultaneously the aspect of data restriction.

Though we have faced all the above problems, or even other specific problems in the modeling process, the efforts to minimize them have not lacked, reducing, at the same time, the inefficient estimation risks.

Furthermore, if necessary, the data are subjected to the process of seasonal regulation before starting the estimation process.

Basic assumptions used in estimation:

The variables participating in the model are measured as deviations from their historical mean, thus bringing more appropriate information to be applied in the structural forms of models. Also, such ways of measurement result more efficient in using the least square method (LS), a method that is also used in macro-model estimates, which tries to identify from the quantitative viewpoint the links showed in Figure 1. In this way, the basic assumptions that allows the use of LS are met more satisfactorily.

While the basic assumptions of applying the estimation method (LS) are assessed to be fulfilled, the presence of some economic nature assumptions, which find space even in Albania’s case, is also deemed as necessary.

Among the basic assumptions, we mention:

- (i) Interest rates have an important effect on aggregate demand, through the impacts they exercise on changing the deposit interest rates;
- (ii) The impact of short-term interest rates on the nominal exchange rates, due to the effect of currency substitution is very strong;

- (iii) A significant role in transmission mechanism should be played by monetary aggregates. The output gap⁵ is substituted in the equation of Philip curve by the real money gap M3;
- (iv) Supposing that quantitative restrictions are the main contributors in controlling the base money, and that the currency multiplier does not change, the M3 monetary aggregate is used as a variable in the model;
- (v) Given the difficulty in identifying the currency with the largest significance in Albanian economy, the effective exchange rate (NEER and REER) is used as a variable;
- (vi) The lending interest rates are neglected as long as the credit to economy is rather limited.

Introduction of the structural model on monetary transmission mechanism

The identification of links takes place through selecting the equation system.

IS Equation (1):

$$y_t = \alpha_1 \cdot y_{t-1} + \alpha_2 \cdot r_t + \alpha_3 \cdot g_{t-1} + \varepsilon_{1t}$$

This equation indicates the link between the product (GDP) and exogenous variables, such as: the preceding quarter output evidenced by a lag (-1); the interest rates on banking system deposits; the total government expenditure effected during the preceding quarter, that is with a lag (-1).

LM Equation (2):

$$m_t = \beta_1 \cdot m_{t-1} + \beta_2 \cdot y_{t-1} + \beta_3 \cdot g_{t-1} + \beta_4 \cdot e_{t-1} + \varepsilon_{2t}$$

⁵ According to conclusions reached by Svensson.

The above relation estimates the dependence between demand for money and the variables placed on the right side of equation (2), which have a lag that is estimated to be of one quarter ago (-1). Concretely, it implies that the demand for money depends on the overall product, government expenditures, as well as the nominal exchange rate of the preceding quarter.

Philips Curve Equation (3):

$$\pi_t^{cpi} = 0.1 \cdot E_t(\pi_{t+1}^{cpi}) + (1 - 0.1) \cdot \pi_{t-1}^{cpi} + \gamma_1 \cdot m_{(t-1)} + \gamma_2 \cdot \pi_t^e + \varepsilon_{3t}$$

It is one of important equations and at the same time difficult to be estimated and identified from economic viewpoint, facing the problem of lack of reliable statistical data.

On the other hand, it considers also the expected inflation rates to a certain extent.

The basis of this equation is the assumption that the pressures from domestic demand side are generated by the output, which based on the basic assumptions is replaced with the money (m_t)

On the other hand, it is verified that inflation is also a derivative of imported inflation, an important element of total inflation, as long as:

- Total imports occupy about 80 per cent of foreign trade volume;
- It is estimated that a considerable part of goods participating in the CPI measuring basket, are imported.

Considering the two above aspects as very important elements, it is deemed that the impact of import prices, not only should not be neglected as a factor, but it should also be measured. In absence of a long-term measurer proved for it, this impact is identified through the exchange rate marked with (π_t^e) in the current model.

UIP Equation (4) – a:

$$e_t = 0.15 \cdot (E_t(e_{t+1}) - \lambda_1 \cdot i_t + \lambda_2 \cdot i_t^*) + (1 - 0.15) \cdot e_{t-1} + \varphi_t$$

This equation is a possible version of the condition of uncovered interest parity (UIP). It does not aim at reflecting the expected behaviors of foreign investors, as long as the capital movement is still low in Albania.

This equation assumes that the current level of exchange rate is mostly determined by its past values (by risk premium) and to some degree, even by the expectations that relate even with the future developments of short-term interest rates. It tries, in a certain way, to capture the way the household' and banks' portfolio is built, based on the concept "Select between domestic currency and foreign currency depending upon expected developments!".

Real Interest Rate Equation (5):

$$r_t = i_t^{dep} - \pi_{t+1}^{cpi}$$

It determines the real deposit rates, based on the assumption of inflation expectations.

Deposit interest Rate Function (6):

$$i_t^{dep} = 0.5 \cdot i_{t-1}^{dep} + (1 - 0.5) \cdot i_t^{policy} + \varepsilon_{6t}$$

There appear, through the above links, some inefficient aspects of money market in Albania. Among them, we highlight:

- ❖ The short-term interest rate change is transmitted in deposits interest rates gradually and incompletely;
- ❖ It is verified out of estimates derived from simulation that only 70 per cent of the effect of interest rate change is transmitted to deposit interest rates within a quarter. The rest of effect is transmitted later on and therefore more slowly. This effect is evidenced in the reaction function (7).

Reaction function (7):

$$i_t^{policy} = 0.3 \cdot i_{t-1}^{policy} + (1 - 0.3) \cdot (2 \cdot E_t(\pi_{t+k}^{cpi}) + 1 \cdot y_t)$$

This function determines the central bank's reaction. It indicates the way the variables are returned to their equilibrium position by manipulating one instrument. This function is adjusted or is approximated to the Taylor rule. The only reason that the expected inflation is included in the model is that the monetary policy reaction function has better policies when series of inflation expectations takes part in it. It has two important features:

- ❖ Lags in interest rates on the right side smooth the central bank's reaction from any shock effect;
- ❖ The bank reacts by changing its interest rate against:
 - any expected deviation of inflation from the target (the following quarterly k);
 - any deviation of economic growth.

On the other hand, the function is estimated as a standard norm, and to some extent even intuitive one. For $k=0$, the rule takes a more standard but somewhat "myopic" view of the Taylor rule simply because it is not forward-looking in the medium and long run.

Instead of the conclusion.

The inflation forecasting and its maintaining under control is a process that faces challenges, which are more difficult to overcome in transition economies. The case of Albania testifies, on the one hand, the facing of a variety of problems, and on the other, the indication that obvious efforts are made to keep inflation under control, reaching their climax in other ambitious steps, such as the adopting of inflation targeting regime for a mid-term period. The monetary transmission mechanism scheme explained above is one of the possible alternatives offered. Notwithstanding the problems relating mainly to the data, information, current phase of the banking and inter-banking

system development, current knowledge level in macroeconomic modeling, as well as other problems of economy development in general and banking system development in particular, it outlines, to a certain extent, the path of monetary policy decisions to inflation forecasting.

Is it the best and the only alternative?

Undoubtedly, the answer to this question is negative due to some reasons:

First, “the absolute good” does not exist in its philosophical concept. There may exist room for further improvements in the model presented, through its enrichment with data, concepts and new experiences;

Secondly, the indicating in the model of necessary adjustments that should be made in the banking system and market is one of the key issues of functioning and moving forward the transmission mechanism scheme of monetary policy decisions. If the latter ones will not be absorbed by the market and its economic agents, such schemes will remain inert: They will lack the oxygen needed to liven up and to intensify the movement of our central bank’s decisions, in the right time and place, towards an efficient monitoring of inflation.