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## An empirical assessment of alternative exchange rate regimes in medium term in Albania

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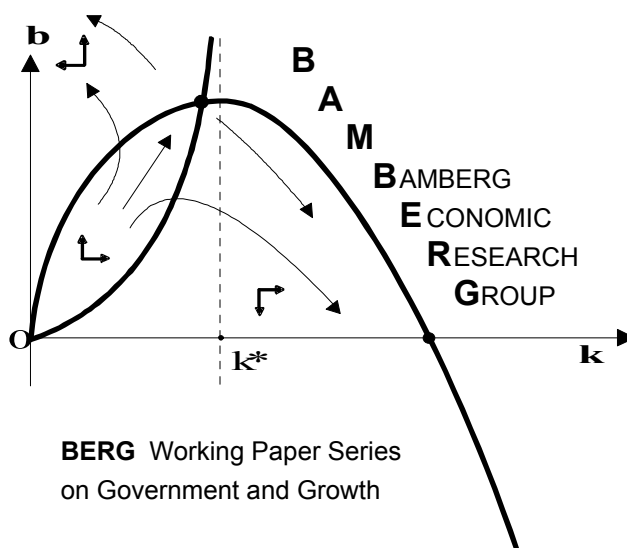
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# An Empirical Assessment of Alternative Exchange Rate Regimes in Medium Term in Albania

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Working Paper No. 58  
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1 Introduction .....	3
2 Alternative strategies for exchange rate arrangement .....	4
2.1 Fixed exchange rate arrangement in case of Albania .....	5
2.2 Optimum currency area consideration .....	5
2.3 Informal euroization in Albania .....	7
2.4 The strategy of inflation targeting .....	9
3 Empirical analyses .....	12
4 Conclusions .....	16



# **An Empirical Assessment of Alternative Exchange Rate Regimes in Medium Term in Albania**

Tonin Kola<sup>\*</sup>

Elida Liko<sup>\*\*</sup>

## **Abstract**

This paper examines the alternative exchange rate regimes and their feasibility to be applied in Albania in medium term. In all empirical work done until now is been found a very low relationship between money and inflation in Albania before and after using the indirect instruments of monetary control. As a result, the motivation for finding other strategies for monetary policy and exchange rate policy is strong and has opened the debate of practitioners in this field. We argue that moving from freely floating exchange rate regime and informal IT strategy in formal IT strategy would be a more preferable strategy that will deal better with the fragile sustainability of current account deficit in Albania but not without problems to be applied.

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## 1 Introduction

Albania is a transition country located in west Balkan near euro area, with strong trade links with European Union. Transition process started in Albania in year 1990 with liberalization of prices and foreign trade. Authorities aimed macroeconomic stabilization in an environment of high inflation created in the country after started the process of price liberalization. Monetary policy set the main target price stability. To archive this objective Central Bank followed the strategy of increasing the money supply, through the control of money supply.

Before 1999 Albania had a fixed exchange rate regime. In July 1992 exchange rate regime switch from fixed exchange rate to flexible exchange rate. The change of regime was dictated by the low level of foreign reserves, necessary to sustain a fixed exchange rate regime.

Monetary policy and exchange rate regime has been unchanged during all the transition period in Albania. Despite this fact in exchange rate market are noted some developments after EMU foundation.

After euro introduction is noted a change in preferences of Albania economic agents in relation to foreign currencies. Before 2000 foreign currency more preferred in Albania exchange rate market by all economic subjects was American dollar that served also as a reference currency followed by German mark<sup>1</sup>. After 2000, is noted in exchange rate market a significant appreciation of euro against lek (*national currency*) and at the same time a devaluation of American dollar against lek. This situation continued until year 2003. Since the beginning of 2003 it is noted an appreciation of lek against euro and American dollar. This appreciation has accrued although the Albania Central Bank has intervened in foreign exchange market in favor of foreign currencies and the decrease of nominal interest rate for deposit in lek since the beginning of 2003.

Euro is the foreign currency more preferred by economic agents, although the impact of dollar as international currency in Albania is still strong because the prices of many imported goods of Albania such as fuel and electricity are listed in foreign stock exchange in dollar.

The presence of Central Bank of Albania in foreign market has been limited. The interventions are made only to avoid the speculation in exchange rate market. The demand and the supply for foreign currency has been the main determinant of

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<sup>1</sup> Baleta and Çeliku (2000)



exchange rate. An important role in stabilizing exchange rate in an environment of high deficit in current account has been played by private remittances<sup>2</sup>

In the function of finding the best alternative strategy for exchange rate in Albania this presentation is divided in two main parts. In the first part, based in corresponding literature, are discussed alternative strategies, their feasibility to be applied and restriction. In the second part, is done an empirical work that aims determining mutual linkages between macroeconomic variables in Albania and limitation that exists in supporting alternative strategies based on reported results.

## **2 Alternative strategies for exchange rate arrangement**

Albania is an applicant country to enter EU and EMU. In long run we have to fix our exchange rate to euro, but in the mead term we can choose the exchange rate regime that we think will best suit to the condition of Albania economy and accelerate Albania accession in EU.

From the view point of actual members of EMU the entrance of the countries of Central and East Europe in euro area is seen as the last step in process of monetary and economic integration<sup>3</sup>. They support three stage process of integration: Holding the national currency, entering into EU and entering into EMU.

In the firs step there is no limitation in choosing exchange rate regime by individual countries. In the second phase the exchange rate is treated in accordance with common interest. After entering into EU the country should apply ERMII strategy for two years without competitive depreciation. In the third phase the country is treated equal with other countries that are actually in EMU.

The strategies of hard peg exchange rate regime or pure flexible exchange rate are strategies supported on the literature for countries that are integrated in world capital markets. The experience of Latin America countries showed that the appliance of soft peg exchange rate regime without an appropriate fiscal and monetary policies, resulted in big swings in exchange rate, huge capital movement and in collapse of fixed exchange rate. Prudent monetary and fiscal policies are necessary preconditions for every successful exchange rate policy. The experiences of transition applicant's economies are different related to this issue.

Some Central Banks in East Europe countries such as Estonia, Lithuania, Bosnia and Herzegovina and Bulgaria are following currency board arrangements with euro and

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<sup>2</sup> Muço, Papanages and Stanfey (1998); Istrefi and Shehu (2002)

<sup>3</sup> Exist a sign arement between ECB and Central banks of applicant countries, dated 1 September 1998; Eden, Groot, Ledrut, Romijn and Sausa ECON 117EN

Montenegro and Kosovo has performed unilateral euroization<sup>4</sup>. Both these regimes currency board and unilateral euroization are classified as hard peg exchange rate regimes.

This strategy is supported by some applicant's countries in stead of the three stages strategy<sup>5</sup>.

## **2.1 Fixed exchange rate arrangement in case of Albania**

Albania is an applicant country not integrated in international capital markets. In economic literature, for countries not integrated in international capital markets such as Albania is recommended the entire set of exchange rate regimes Fisher (2001).

The hard peg exchange rate regimes (currency board and unilateral euroization) are basically applied in the countries with high inflation expectation and low credibility in national authorities. For example currency board was applied in Bulgaria in 1998, before this regime the country was faced with very high inflation rate, at about 1080 percent in year 1997. Albania has archived in the last years the Macroeconomic stability with low inflation rate and sustainable high growth rate at about six percent per year.

Grera (2004) “[A]rguments that the need of applicant country to apply hard pegs exchange rate regimes is not clear: a) many countries have eliminated the high inflation b) hard pegs regimes could lead to evaluation of real exchange rate due to Balassa –Samuelson effect”. From authorities of Central Bank of Albania is also not supported this strategy. Mr. Cani<sup>6</sup> (2001) in the annual conference of this institution stated that „The Central Bank of Albania don't support the strategy of making exchange rate objectives for monetary policy and has never take into consideration the strategy of currency board arrangement“

## **2.2 Optimum currency area consideration**

OCA theory was developed by Mundel (1961). This theory in accordance with structural features of individual countries determines which exchange rate regime, fix or flexible is more suitable to be applied. This theory stresses the geographical features of the individual country and the foreign trade in determining the exchange rate regime.

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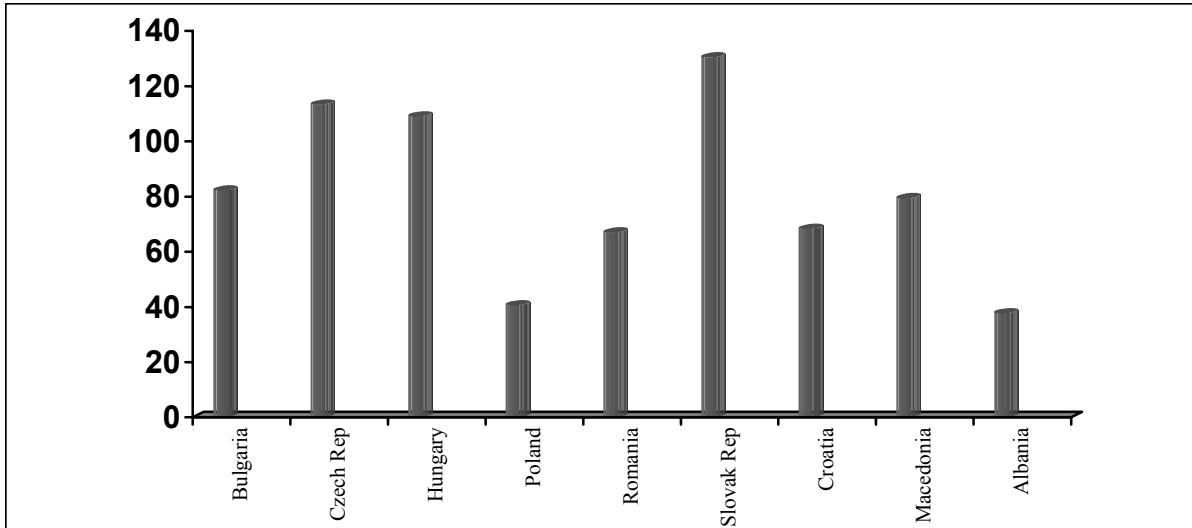
<sup>4</sup> Jugen Von Hagen dhe Jizhong Zhou (2002); Jan Fidrmuc (2002); Fabrizio Coricelli (2001); Willem Buuiter (2000)

<sup>5</sup> Bratkowski abd Rostowski (2001) recomend the unilateral euroization for applicant countries that have sufficently large international reserves to support this strategy.

<sup>6</sup> The former Governor of Bank of Albania

Albania is a small country relative to euro area and territory near euro area. We perform the main part of foreign trade in both parts imported goods and exported goods with euro area countries. In the following graph is shown the degree of openness of Albania economy and some applicant countries.

**Figure 1:** *Openness (Exp+Imp) relative to GDP in percentage*

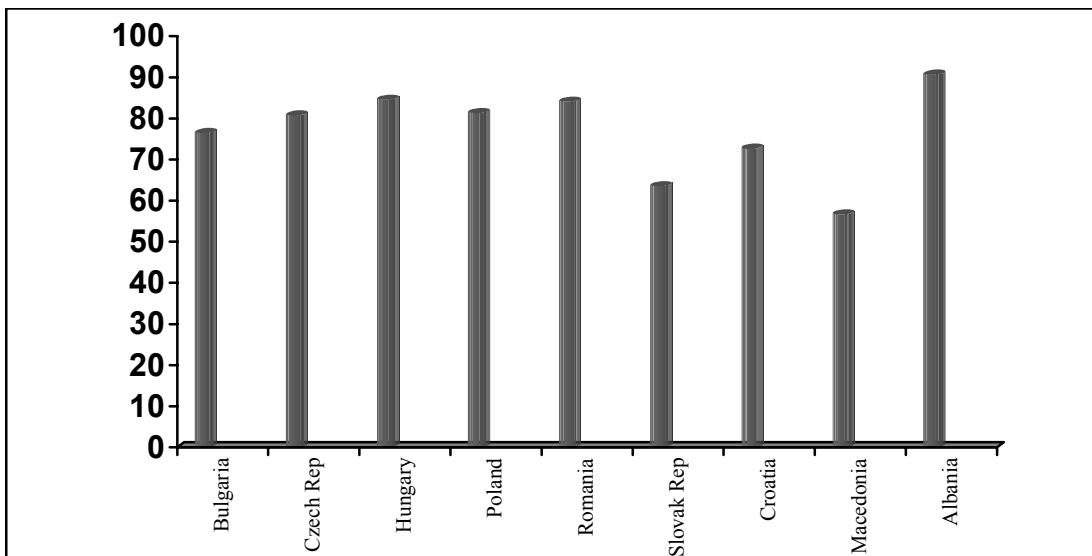


Source: Annual report of EBRD (2004)

The figures reported in above graph show that Albania is not very open to foreign trade. The degree of openness is less than 40 percent, in very low levels compared to Hungary, Czech Republic and Slovakia, where openness exceed 100 percent.

But the foreign trade in Albania is more orientated to EMU countries rather than to other transition countries.

**Figure 2:** *Share of trade with no transition countries (in per cent)*



Source: Annual report of EBRD (2004)

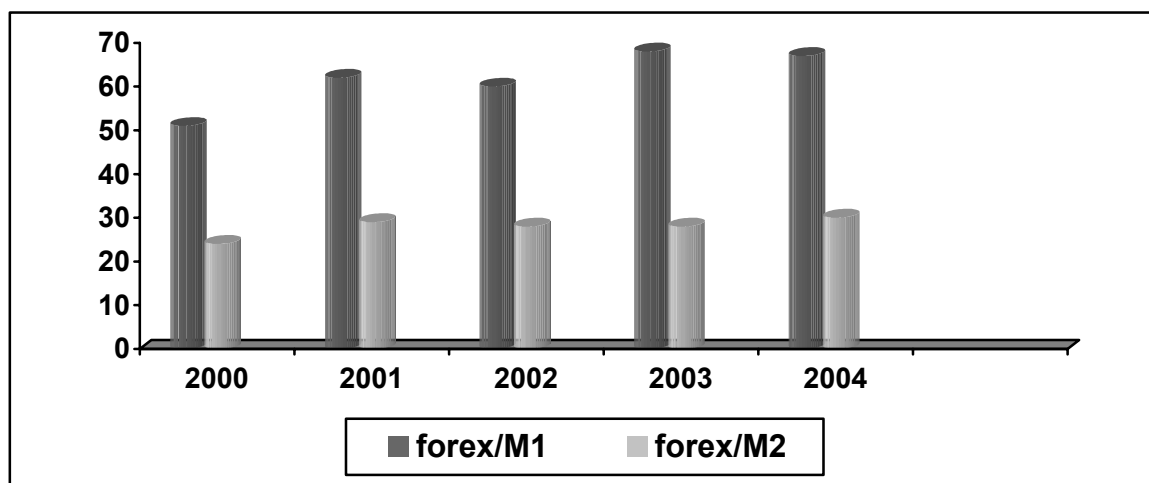
About 90% of Albania foreign trade is with euro area countries. Although Albania fulfill OCA criterion only to some extend, in the future we expect the incensement of foreign trade volume with euro area.

Reduction of exchange rate volatility and decreasing of transactions costs after euro introduction have contributed in incensement of Albania foreign trade transaction. We believe that a stable macroeconomic situation created in the country in the last year is a factor that will affect positively the foreign trade in Albania and will make our country more attractive to foreign investors<sup>7</sup>.

### 2.3 Informal euroization in Albania

For measuring the “euroization” of Albanian economy are used two indicators, foreign deposits to M1 that measure the currency substitution and foreign deposits to M2 that measure the asset substitution.

**Figure 3:** *M1 and M2*



Source: Data from Bank of Albania

From the figures reported above Albania could not be classified as a country with high degree of informal euroization. Prices of goods and services in Albania are basically expressed in national currency with some exceptions such are the prices of households that are basically expressed in foreign currency, before euro introduction were expressed in American dollar and after that in euro. The switch from prices determined in dollar to euro we think is done following the developments of these currencies in exchange rate market in order to have higher profits. After euro introduction, euro was appreciated against lek and American dollar significantly.

<sup>7</sup> Mancini-Griffoli and Laurent Pauwels (2004) have found some empirical evidence that macroeconomic (and possibly institutional) stability effect are transmitted in the foreign trade, in the case of the Euro Area, through a market decrease in real interest rates preceding and following the introduction of the Euro.

The second level banks sector in Albania is dominated by foreign private banks. These banks have credit to the economy more in foreign currency instead of national currency. The reasons for this behavior may be explained with the need to protect themselves by changes of exchange rate course. Another argument is that the prices of households are expressed in foreign currency and the public wont to borrow from banks in foreign currency.

Although the efforts of our government against illegal activities, they are still strong in Albania and are performed basically in foreign currencies. Many Albanian emigrants still use informal channel to send home the money to their family instead of formal channel.

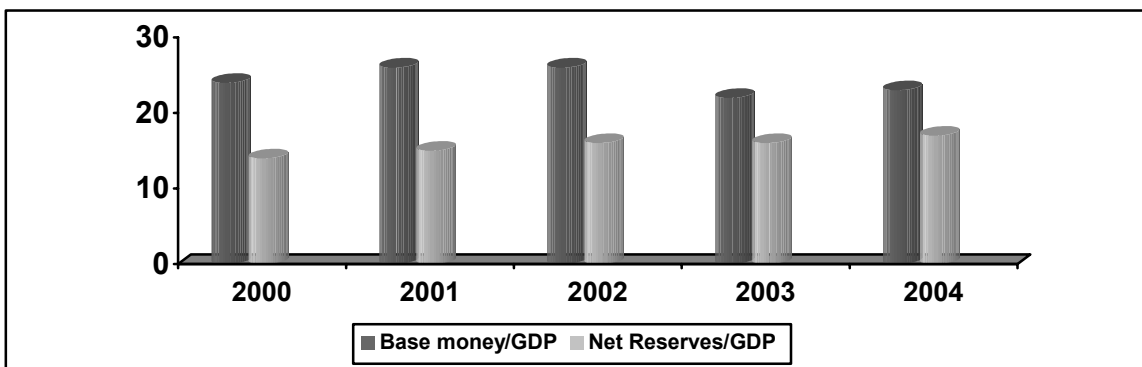
These facts make us to believe that the degree of informal euroization of Albania economy is higher than the figures reported above.

### **The actual possibilities that the country has to fix exchange rate**

In the beginning of the transition process in Albania, the choice of flexible exchange rate was obligatory for our government because no more foreign reserves were left. Now the situation of foreign reserves has changed.

Theoretically the amount of foreign reserves that is considered sufficient to sustain a fix parity is when the Central Bank can buy at any time the power money supply<sup>8</sup> – the exception in this case is the situation of currency crises in which the public doesn't want to hold any more the national currency for example Argentina crises in 2002.

**Figure 4:** *The money base to GDP and Foreign national reserves to GDP*



Source: Data from Bank of Albania

Taking into the consideration the fact, that from year 1992 in Albania is applied free floating exchange rate regime, the net foreign reserves are in satisfactory level relative to money base. They covered about 70 percent of money base, with the

<sup>8</sup> See Obsfeld and Rogoff (2000)

tendency of growing in the future. Based in this fact technically for the authorities is possible to sustain a fix exchange rate.

As stated above we do not recommend adoption of a fix parity of exchange rate regime including even hard peg choice instead of freely floating exchange rate regime not only because the country would not be able to apply independent monetary policy and using the exchange rate as a shock absorber but also the situation of current account in Albania are not very favorable. The ratio CA/GDP in the last years has been in a high level. For example in 2002 was 9.3 percent, very high which was improved in the following years in 2003 was 6.9 percent and continued to decrease in 2004 was accounted 4.7 percent. Freud (2000) has found evidence that the reversals basically accrued when current account deficit was about 5 percent of GDP and were accompanied with real depreciation of exchange rate and slow real income growth for a period three years after. In Albania although the persistence deficit of current account the overall balance of payments has been in surplus and we have not had a reversal, on the contrary is noted a appreciation of national currency in the last years. The deficit of current account and how to deal with is analyzed by few authors such as Mançellari and Xhepa (2003) which concluded in their work that „ Deficit of Albania current account is chronic and in the high levels. Although the deficit could be considered sustainable, has a fragile sustainability and should be considered seriously“. The experience of some transition economies such as Czech Republic with fixed exchange rate related to this problem has shown that using the nominal anchor based on the belief that a stable exchange rate would provide consistent signals to investors turned out to be wrong. The current account is determined by real exchange rate and not by nominal exchange rate. The real exchange rate was appreciated significantly in this country Drabek, Brada (1998).

## **2.4 The strategy of inflation targeting**

Inflation Targeting is a strategy for monetary policy that means pure float exchange rate regime that we take into consideration. Adoption of inflation target strategy allows the authorities to keep using the monetary policy as an effective instrument for achievement of GDP growth by keeping under the control inflation rate<sup>9</sup>. Inflation targeting makes room for more flexible responds of the economy against the internal and external shocks. In fixed exchange rate arrangement the country has the commitment to maintain fix exchange rates by intervening at exchange rate market in any time that the actual exchange rate course differs from the central course. If the

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<sup>9</sup> See Frderic Mishkin and Jire Joans and Lucjan Orlowski

productivity in tradable goods is higher than in EU countries, this will lead to evaluation of real exchange rate and the national price will increase-Balassa-Samuelson effect. In inflation targeting strategy the changes in nominal exchange rate can absorb the differences in productivity and prevent internal inflation to increase.

### **The preconditions that the country should fulfill in order to succeed the IT strategy**

- The Central Bank should formulate a reliable framework of IT strategy. The real independence of Central Bank is a necessary precondition. If Central Bank continue to finance the budget deficit this could be in contrast with holding the inflation in desirerate levels.
- The central bank should accumulate all the knowledge related to the internal and external factors that may influence the price development in the country.
- The central Bank should have the complete knowledge of transmission mechanism of monetary policy, the relationships that exist between monetary indicators, and the lags that need these variables to influence the price development in the country.
- The Central Bank should perform a reliable technique of forecasting actual rate of inflation and at the same time must be able to explain the deviation of current inflation rate from the inflation objective and to undertake protection measures.

#### **Box: The experience of some applicant countries with IT strategy**

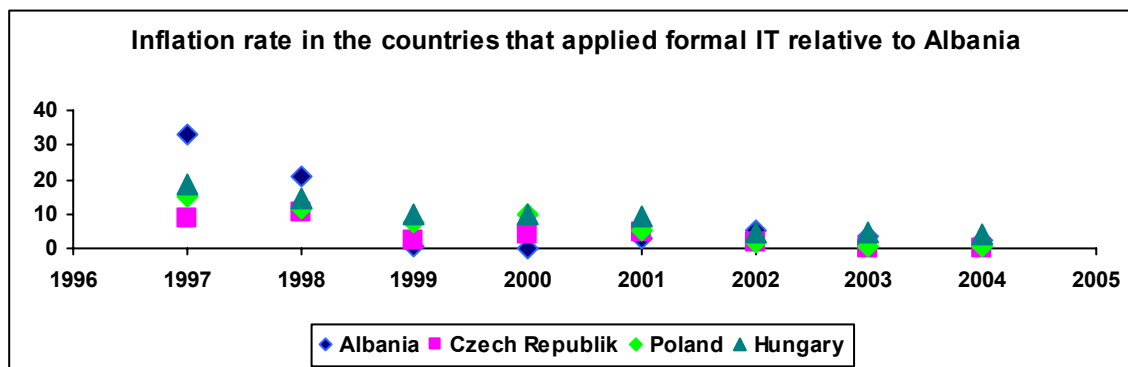
In Hungary, Poland and Czech Republic was applied Inflation targeting before entering in EU. In all these countries the exchange rate regime switches from fix to IT. Fixed exchange rate was applied in these countries in the beginning of transition process, as a nominal anchor in order to archive in a short period the price stability.

In Czech Republic IT was applied in 31 December 1997. In this country was used a new concept *Net inflation*. Net inflation measures the changes in CPI of all the products of CPI basket except for the group of products that have administrated prices. In 2002 in Czech Republic were target CPI and not the net inflation.

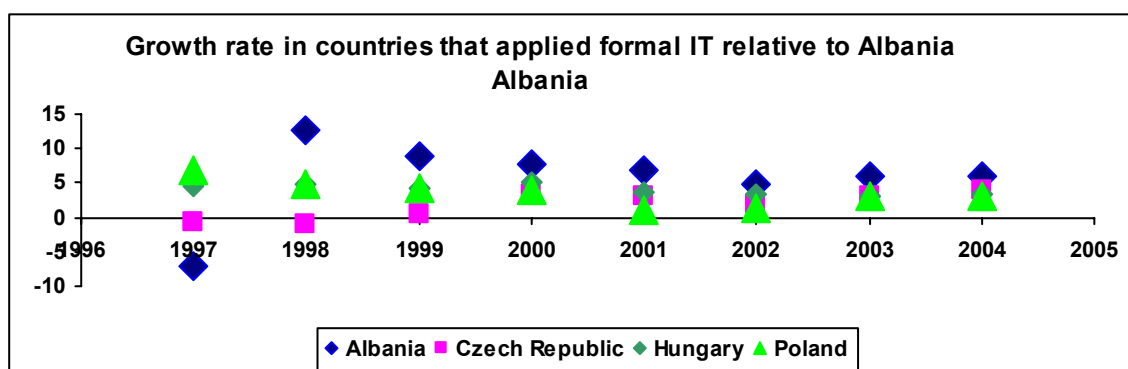
In Poland IT started to be applied in year 1998. In the time this strategy was applied was maintained the band of exchange rate, which was neglected in April 2000.

In Hungary on 31 July 2001 the Central Bank set the main objective Price stability. In this country with IT strategy was kept the exchange rate band +/-15% to euro.

In all these countries the strategy of IT was considered successful before entering into EU. Mishkin and Jonas (2003) after analyzing the IT performance in these countries concluded that “In all this countries the preconditioned criterions to make IT functional are fulfilled in a satisfactory level to make IT strategy useful for these countries”



In all these countries when they started to apply IT strategy were faced with high inflation rate: In Poland in June 1998 inflation rate was 12.2%; in Hungary in August 2001 inflation rate was 8.7%, in Czech Republic in December 1997 inflation rate was 10%. If we compare with inflation rate in Albania although we don't apply formal IT as a strategy for our monetary policy, Albania has a very good performance of inflation rate with the exception of year 1997 the ruin of pyramidal schemes and the year after.



With the exception of year 1997 the growth rate in Albania has been higher than in all this countries.



If we compare Albania with these countries we can say that:

In countries that formal strategy of IT was applied before entering in EU are advanced economies in transition, and the strategy of IT is recommended to be applied in these economies. This criterion is not fulfilled by Albania.

Although Albania is not applying a formal strategy of IT, under present monetary policy and exchange rate policy have been good results in terms of inflation and economic growth

Albania Central Bank has managed for every year to keep inflation in determined bounds 2-4% from 2000 until now.

The interventions of Central Bank in exchange market have been limited. This fact is in accordance with IT.

Based on the fact that economic condition that make these countries to apply IT strategy are different with that of Albania now, we can conclude that the experience of these countries don't give an answer if these strategy should replace the actual policy of Bank of Albania in medium term.

Cani (2000); Hadëri and Kolasi (2003) have analyzed the possibility of adaption of IT strategy in Albania in medium term and have concluded that policy framework needs a bigger commitment of Central Bank and other institution in the country in order to make this strategy successful. In with article we make an empirical work that aim to give a contribution in determining the macroeconomic factors that influence the price development in Albania, necessary to make IT functional and useful strategy.

### **3 Empirical analyses**

There is very little research for determination of the impact of macroeconomic variables and their lags in price development in Albania. Some studies provide some evidence that private remittances and exchange rate play an important role in price development in Albania (M. Muço, P. Sanfey and A. Taci, 2003; H. Papapanagos, P. Sanfey 1998; S. Haderi, P. Sanfey, H. Papanagos and M.Talka 1996; Philip C.Rother 2000)

Other authors G. Kolasi, E. Çeliku and G. Harshorva (2001) argue that “[t]he change of exchange rate course lek/usd affects the inflation rate with one lag. The strong relationship between exchange rate and inflation is based with special features of Albania foreign trade when the imported good volume excesses about three times the exported good volume and the fact that many imported goods are included in CPI basket”.

A. Mançellari, H. Mytkolli & T. Kola (1999) provide evidence that exchange rate lek/usd, interest rate of deposits in lek and the past value of CPI influence price development.

There has been also an empirical work E. Josa (2002) that tries to analyze the impact of inflation in tradable goods sector and not tradable goods in Albania in total inflation. In Albania the main part of tradable goods are imported goods. Therefore the prices of these goods are affected by changes in exchange rate. The work concluded that inflation in both sectors is important in assessment of total inflation.

Ilker Domaç & Carlos Ebirt (2001) has found evidence that credit of government influence the prices of no tradable goods. The increase in the credit for the government due to fiscal deficit leads to increase of no tradable goods and inflation.

Since the data of previous studies cover mostly the period of beginning of the transition process in Albania until 2001, period in which the Central Bank of Albania used direct instruments of monetary control this work analyses a longer period of time and test other economic fundamental that we think are important in price formation in the country.

The data set is compiled by Bank of Albania. The model takes into consideration eight variables with monthly frequency for the period from year 2000 until 2004.

### **Estimation model**

In this paper we use VAR models for empirical analyze. VAR models are developed by Sims 1980; these models treat all variables under study on an equal footing. There is no distinction between endogenous and exogenous variables.

The macroeconomic time series are often not stationary. For this reason, before to run the regressions is done the test of unit root. Based in tests of DF and ADF, all the time series involved in the model are not stationary and integrated of order 1. In the VAR model is used the base date of the time series because together the series can be co integrated Gujarati (2003). All the dates are worked in form of logarithm.

In VAR models are included these variables: exported goods volume, nominal exchange rate lek/usd, money supply represented by M2, CPI, interest rate of three monthly deposits in lek, private remittances and net foreign assets.

### **Estimation results**

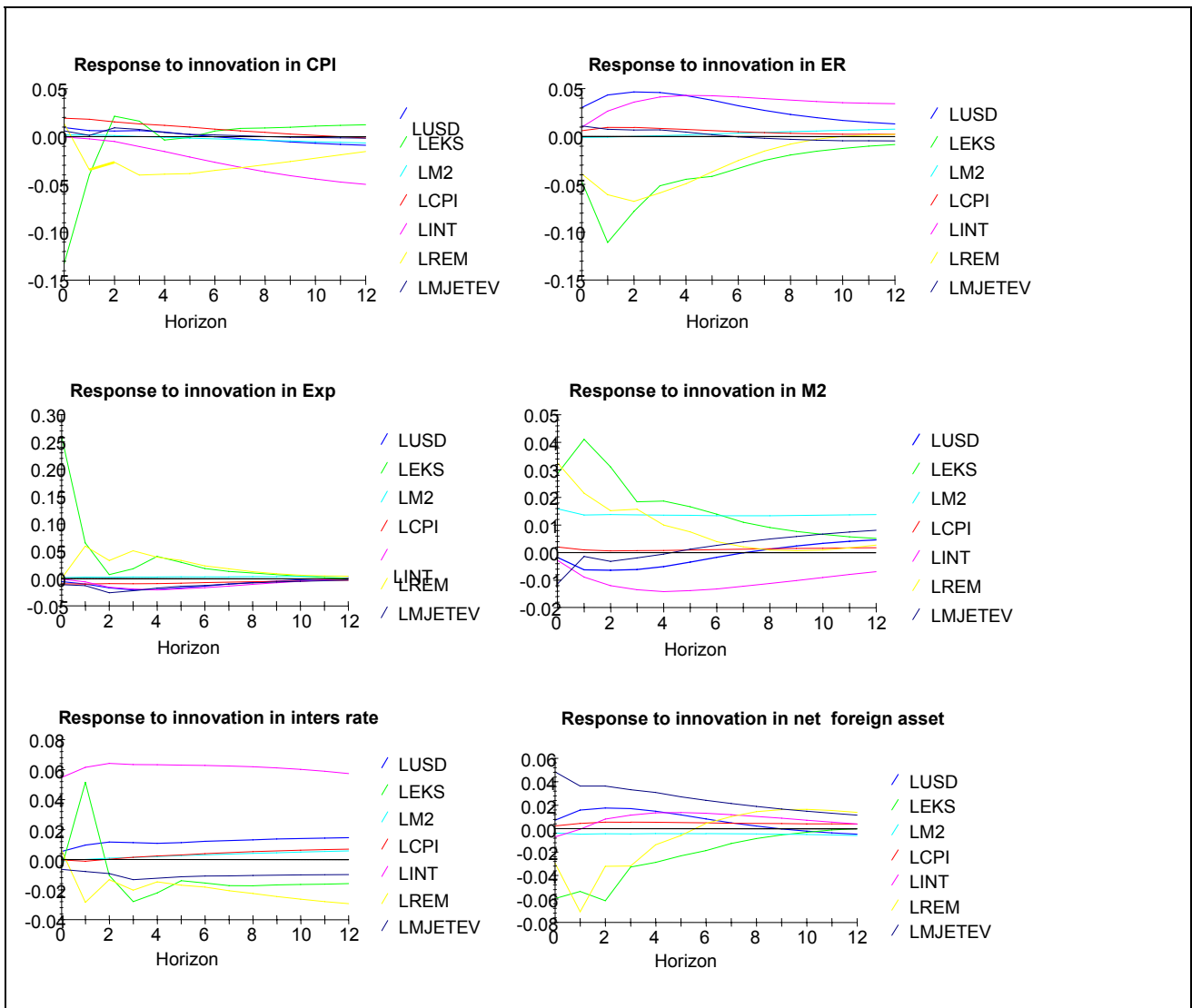
The table below gives the results of variance decomposition analyze of VAR order two. The variance decomposition analysis shows for each variable in different time horizon the percentage of the forecast error variance, due to its own shocks versus shocks in other variables of the regression.

**Table 1: Variance Decomposition VAR 1995:08-2004:12**

	Time	lUSD	leks	Lm2	lcpi	lint	lrem	lmvalut
LUSD	1	0.95	0.04	0.01	0.04	0.04	0.02	0.10
	6	0.83	0.12	0.01	0.02	0.06	0.02	0.09
	12	0.75	0.10	0.01	0.03	0.10	0.02	0.07
Leks	1	0.16	0.81	0.03	0.21	0.03	0.01	0.07
	6	0.24	0.64	0.04	0.17	0.04	0.04	0.11
	12	0.24	0.61	0.04	0.17	0.05	0.04	0.11
Lm2	1	0.002	0.02	0.99	0.01	0.002	0.01	0.08
	6	0.02	0.04	0.90	0.01	0.02	0.01	0.09
	12	0.07	0.04	0.69	0.05	0.04	0.003	0.08
Lcpi	1	0.18	0.27	0.01	0.97	0.001	0.004	0.04
	6	0.25	0.35	0.01	0.84	0.02	0.01	0.10
	12	0.21	0.32	0.01	0.65	0.11	0.02	0.12
Lint	1	0.11	0.01	0.01	0.00	0.95	0.003	0.01
	6	0.23	0.04	0.02	0.04	0.67	0.000	0.01
	12	0.19	0.02	0.02	0.14	0.54	0.000	0.01
Lrem	1	0.03	0.02	0.01	0.01	0.004	0.97	0.03
	6	0.06	0.03	0.01	0.03	0.007	0.92	0.03
	12	0.06	0.03	0.01	0.04	0.018	0.90	0.03
lmvalut	1	0.05	0.08	0.04	0.01	0.03	0.01	0.96
	6	0.03	0.21	0.02	0.02	0.08	0.002	0.82
	12	0.03	0.18	0.03	0.02	0.11	0.002	0.75

Based in the dates reported in the table the main part of the forecast error variance of CPI is due to its own shocks. The shocks in exported goods explain only 27 percent of forecast error variance after a month and the impact becomes bigger with the increasing of time horizon. The shocks in exchange rate explain not mote than 18 percent of the forecast error variance of CPI in all time periods under survey. The impact of money supply is very low in all time periods under survey. Interest rates explain about 11 percent of the forecast error variance of CPI after 12 months. A considerable is the effect of foreign assets there impact increase with the increase of time horizon under survey and is counted about 12 percent of the forecast error variance of CPI after 12 months.

The conclusions of the variance decomposition analyze are reinforced by Impulse Response Functions analyze.



The first graph show the reaction of each variable in analyze over a twelve months period due to a shock in CPI. Exchange rate is relatively unchanged by the shock in CPI, the bigger effect in this time series is after a month.

The second graph shows reaction of the variables in analyze against a shock in exchange rate. The effect in exported goods is relatively big with the maximum value after a month. A considerable effect is also in private remittances. The effect in inflation is small and negative. The third graph represents the response of the variables involved against the shock in exports. The effects of this shock are felt mainly on exports itself with the maximum value after a month.

The effect of money supply in inflation is very small. The shock in net foreign assets felt mainly in the exchange rate, with a big effect after a month.

A number of previous studies have looked at the determinants of inflation in Albania. There seems to be some evidence that there is not a strong link between money supply and inflation. The exchange rate, private remittances and past value of

inflation are macroeconomic variables that have resulted significant by statistical view point. My results suggest that the impact of remittances is not very strong. The transition process started in Albania in year 1990 and now after sixteen year the increase in remittances is very small compare to beginning of transition process. In long term is expected the decrease of private remittances because the emigrants can lose the contact with their relatives in Albania.

The presence of Bank of Albania in foreign exchange market in the last years has been frequent due to continuous appreciation of lek against main foreign currencies. For this reasons net foreign reserves are take in consideration in this study. There impact in inflation has resulted statistically significant.

This study reinforces the results drawn by previous study of no strong relationship between money supply and inflation in Albania.

## **4 Conclusions**

Albania is applying now not formal IT regime. The final objective of Bank of Albania is price stability with an intermediary target increasing of money supply. Since the relationship between inflation and monetary supply has proved to be very low, in all empirical work done in this field including this study, we support the strategy of formal IT in medium term. Fixed peg exchange rate regimes in case of Albania economy may not be a suitable strategy based in fragile sustainability of current account deficit, very good macroeconomic situation in the last years in the country and a very good performance related to inflation rate.

The formal IT strategy is not without problems to be applied. Exchange rate is very important variable in determining inflation in Albania and is a variable determined out of monetary control.

IT strategy was successfully adopted by some advanced transition economies such as Hungary, Czech Republic and Poland before entering to EU. These countries are all integrated in global capital markets and have financial market more developed than Albania. Based on the fact that economic condition that faced these countries when they started to apply IT strategy are different with that of Albania, we can conclude that the experience of these countries don't give us an answer if these strategy should replace the actual policy of Bank of Albania in medium term.

## **Literature**

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