3 THE IMPACT OF THE NATIONAL BANK OF ROMANIA MONETARY POLICY ON THE BALANCE OF PAYMENTS

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Abstract

The matter of balance adjustment generates many interesting reflections. For a long time, the equilibrium of the balance of payments was the focus of theoretical debates referring to international economy. At the beginning, it was reduced to the equilibrium of the balance of current transactions. However, the focus still remains on bringing the balance to the state of equilibrium, both in the case of current transactions and in the case of non-monetary operations.

The paper presents the main monetary factors that influence the elements of the balance of payments and the direction and path of such influence. Thus, the results can conclude the impact of the NBR monetary policy over the current account and the capital account of the balance of payments.

In the first decade of the transition the monetary policy of the NBR was based especially on some very restrictive monetary tools, such as maintaining for a long time a high discount rate and a high rate of the minimum reserves in lei. Their high level, as compared to that of the other economies in transition, has caused the maintaining of high interest rates in the entire banking system, and this has not stimulated the economy and the domestic investments. Moreover, these high rates have not succeeded in attracting the foreign investments, which have dramatically decreased after the boom occurred at the beginning of the '90s, because of the domestic economic and political conditions.

The conclusion is surprising: the monetary policy of the NBR did not support the efforts for the recovery of the economy. Almost during the entire decade, the monetary policy was harsh, restrictive, basically oriented towards controlling inflation, thus neglecting the other macroeconomic variables, such as the local savings discouraged by the high inflation and the investments that would have supported the economic growth. This has caused major imbalances at the macroeconomic level, which have reflected at all the levels of economy. Among these imbalances, the most important and the one that lasted the longest period of time was the external one. The re-orientation of the policy of theNBR at the beginning of the new decade was meant to support both the objective of the domestic balance and that of the external balance.

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JEL Classification: E44, E52, E63, F21, F32**.**

1. Introduction

In a market economy, in order to influence the evolution of some economic events, the state can make use of the balance of payments, capital movement and, implicitely, the situation of the money supply in the respective country.[1]

The evolution of the balance of payments of a country is closely connected to the economic evolution of the respective country and reflects its participation in the international economic circular flows. It enlightens the operating efficiency of the goods and their competitiveness on the international market, from the point of view of the quality and the price.

There is a double influence between the balance of payments and the national currency: on the one hand, the exchange rate influences the prices and, thus, the increase or decrease in the profit in the case of international transactions, and, on the another hand, the balance of payments, due to its active or passive role, influences the exchange rate of its own currency.

On the way to convertibility, the part played by the balance of payments in determining the convertibility and the mobility of the exchange rates increases. In order to pass successfully to long-term and mid-term convertibility, it is essential to achieve and maintain a certain structural balance between the current transactions and the capital and financial ones.

At the same time, on the international financial-currency market, the quality of the balance of payments of a country is an important criterion in granting credits and stipulating their terms.

The economic reform for the transition to the market economy which took place in Romania was most successfully and rapidly carried out in the case of the foreign trade. Unfortunately, because this reform was not accompanied by the reform of the other sectors of economy from the point of view of rate and development (production, infrastructure, the financial-banking system, monetary and credit policy, insurance, staff training), the deficit of the balance of payments and that of the current account have become lasting and substantial and the exports have become insufficient from the point of view of competitiveness and efficiency. In other words, the reform was not as successful as it was expected to be. Its bad management also contributed to this.

During the last three decades, many essential changes have occurred. Their consequences have been only partly assimilated by the economic theory, which still refers to some ideas that do no longer reflect the real, current situation.

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1. Stoian I.., Berea A., Balance of payments, *Scientific and Enciclopedic Publishing House, Bucharest, 1977, p.30.*

The banks can manipulate the economic processes by resorting to various methods and especially to credit, and to the rate of interest; the real economy can be oriented using the interest rate and the rate of exchange more efficiently and sounder than the state's plans used to project in the centralized economies.

As we have mentioned before, the main tool by which the commercial banks can influence the state of the economy and its inner and external balance is the bank credit. In its turn, the value of the granted credits is influenced by the rate of the interest earned, which, in its turn, depends on the economic circumstances, the rate of the inflation, the risk run by the one that grants the loan credit, the supply and demand for the loan capital and, first of all, on the monetary policy of the National Bank of Romania (NBR), which acts on the bank credits by means of its monetary tools.

2. The Impact of the Monetary Policy on the Balance of Payments

The purpose of the present paper is to establish the impact of the NBR monetary policy on the external sector, which is on the balance of payments, while its imbalances are increasing all over the world.

The impact has in view the export (EXTUSD), the inputs of incomes (INTRARIVEN) (which has increased its importance in Romania's balance of payments in the last few years), the foreign investments in Romania (SOLDISD)**,** and the inputs from the portfolio investments (INTRARIPORT)**.** That is, the most important elements which, stimulated by the proper monetary leverage, would solve the problem of the equilibrium of the balance of payments in a sustainable way.

Four equations have been created, one for each of the above - mentioned elements, as *endogenous variables*, and several exogenous variables have been resorted to, some of them being part in NBR monetary tools and others being also essential elements of the balance of payments. Thus, the *exogenous variables* are: the import (IMPUSD), the external debt service (SDEUSD) and the foreign debt amount (DATORIEEXT), the variation of NBR reserve net assets (ACTIVE), the real leu-euro exchange rate (EUROREAL), the inflation (INFL), the monthly interest rate in the case of bank deposit facilitates (MDOBFACILIT), the monthly interest rate in the case of lombard loan (MDOBCREDLOMB), the monthly interest rate for the bank deposits with the NBR (MDOBDEPOZATRASE), the monthly reference rate (MTAXASCO), the rate of minimum foreign currency and lei reserves (RATAREZMINLEI**,** RATAREZMINVAL), the interest for the minimum foreign currency and lei reserves rate (MDOBREZLEI**,** MDOBREZVAL), the volume of the transactions with deposits at the NBR (DEPOZATRASE), the volume of the transactions with facilities in the case of deposits at NBR (FACILIT), the level of the monetary base M0 (M0).

The important elements for each equation have been chosen in accordance with the results obtained with the Granger causality tests.

Because of the continuous changing character of these elements, we have resorted to logarithm series, and because of their stationary character, we have used the first difference of the logarithm series in the case when the ADF and PP tests have indicated the non-stationarity.

All the series with absolute values have been changed into millions of USD for their comparison, using the ROL-USD exchange rate, and the interest rates have been converted into monthly values instead of yearly ones.

The real exchange rate has been obtained by correcting the nominal exchange rate with IPC cumulated with the basis in December 1998, monthly data.

The first equation, that of the export, is the following:

$$extusd = f(mdobrezlei_{-t}, mtaxasco_{-t}, impusd_{-t}, extusd_{-t}) \quad (1)$$

LOGEXTUSD = 0,636476*LOG(MDOBREZLEI(-3)/MDOBREZLEI(-4)) + 1,379749*LOG(MTAXASCO(-3/MTAXASCO(-4)) + 0.903059*LOGIMPUSD + 0,078653*LOGEXTUSD(-2)

Dependent Variable: LOGEXTUSD
Method: Least Squares
Date: 09/30/06 Time: 12:54
Sample(adjusted): 1999:05 2006:03
Included observations: 83 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOGMDOBREZLEI(-3)	0.636476	0.164265	3.874692	0.0002
DLOGMTAXASCO(-3)	1.379749	0.432917	3.187098	0.0021
LOGIMPUSD	0.903059	0.036252	24.91042	0.0000
LOGEXTUSD(-2)	0.078653	0.037502	2.097274	0.0392
R-squared	0.881488	Mean dependent var		7.295301
Adjusted R-squared	0.876988	S.D. dependent var		0.552833
S.E. of regression	0.193895	Akaike info criterion		-0.396003
Sum squared resid	2.970039	Schwarz criterion		-0.279432
Log likelihood	20.43412	F-statistic		195.8671
Durbin-Watson stat	2.055828	Prob(F-statistic)		0.000000

The DW test shows the lack of first order self-adjustment, and to be even more certain, the Q-state test is made. This also indicates the lack of self-adjustment. The equation has a high determination coefficient, namely R^2=0.88.

The monetary factor, which has a large influence on the evolution of the Romanian export, consists in influencing the reference interest which has an impact on the interest rates in economy and, thus, it also influences the volume of the credit for export and the entire economic activity.

The next factor which has a great influence on the exports is the evolution of the imports. This can be explained by the fact that the Romanian economy and the exports depend highly on imports.

The dynamics of the interest rate offered by NBR in the case of the minimum reserves in lei of the banks, alongside with the previous evolution of the exports, two lags before, also influences the Romanian export.

The attempt to analyse the influence of the real exchange rate was not validated by the equation together with the above mentioned factors. However, if the variables of the nominal quoting and the inflation are used, one may notice that they also influence the exports. Thus, the nominal quotation influences the exports directly, by means of

the depreciation, and the inflation vice versa, as it can be noticed from the equation below, in which nominal values for the exchange rate have been used.

Dependent Variable: LOGEXTUSD
Method: Least Squares
Date: 09/30/06 Time: 12:44
Sample(adjusted): 1999:05 2006:03
Included observations: 83 after adjusting endpoints

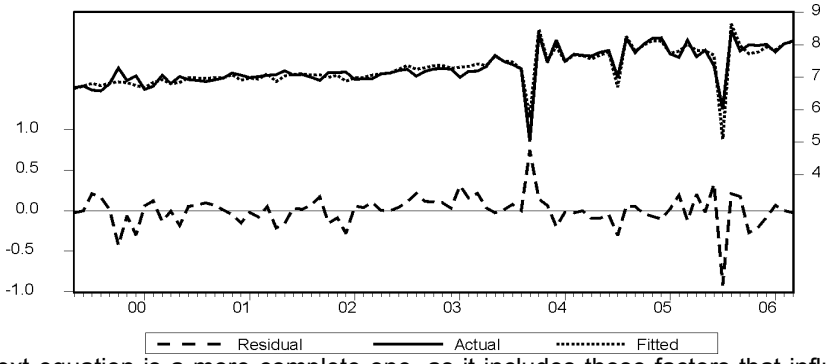
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGEURO	0.214009	0.050166	4.265978	0.0001
LOGINFL	-0.053123	0.029062	-1.827937	0.0714
DLOGMDOBREZLEI(-3)	0.891752	0.161428	5.524157	0.0000
DLOGMTAXASCO(-1)	-0.844586	0.434222	-1.945056	0.0554
LOGIMPUSD	0.777409	0.050602	15.36316	0.0000
LOGEXTUSD(-1)	-0.097451	0.047048	-2.071310	0.0417

R-squared	0.890342	Mean dependent var	7.295301
Adjusted R-squared	0.883222	S.D. dependent var	0.552833
S.E. of regression	0.188919	Akaike info criterion	-0.425459
Sum squared resid	2.748146	Schwarz criterion	-0.250603
Log likelihood	23.65655	F-statistic	125.0372
Durbin-Watson stat	1.791396	Prob(F-statistic)	0.000000

The residuals graph shows the exceeding of the margin only in the second half of 2003 and at the middle of 2005.

In 2003 it was an increase in the imbalance caused by the external commercial flows, due to the insufficient adaptation of the domestic producers to the demands of the domestic and international markets, to the few progresses made in the development of those fields that generate exports with a high added value and to the increase in the international competition.

In 2005, the increase in the commercial deficit was caused by the decrease in the exports toward the euro area, in the circumstances in which the growth rate of the imports was maintained.



The next equation is a more complete one, as it includes those factors that influence the income inflows:

intrariven = f (active$_{-t}$, mdobfacilit$_{-t}$, facilit$_{-t}$, m0$_{-t}$, sdeusd$_{-t}$, soldisd$_{-t}$, ratarezval$_{-t}$, intrariven$_{-t}$, datorieext$_{-t}$) (2)

DLOGINTRARIVEN = -1,331209*LOG(ACTIVE/ACTIVE(-1)) - 1,249160*LOG(MDOBFACILIT(-1)/MDOBFACILIT(-2)) + 0,109259*LOG(FACILIT/FACILIT(-1)) + 3,013835*LOG(M0/M0(-1)) - 0.197994*LOG(SDEUSD(-2)/SDEUSD(-3)) + 0,227938*LOG(OLDISD(-3)/SOLDISD(-4)) + 8,343956*LOG(RATAREZVAL(-1)/RATAREZVAL(-2)) - 0,504986*LOG(INTRARIVEN(-1)/INTRARIVEN(-2)) – 5,659812*LOG(DATORIEEXT/DATORIEEXT(-1))

Dependent Variable: DLOGINTRARIVEN
Method: Least Squares
Date: 09/26/06 Time: 15:52
Sample(adjusted): 2002:01 2005:11
Included observations: 37
Excluded observations: 10 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOGACTIVE	-1.331209	0.546341	-2.436591	0.0214
DLOGMDOBFACILIT(-1)	-1.249160	0.247744	-5.042148	0.0000
DLOGFACILIT	0.109259	0.025046	4.362438	0.0002
DLOGM0	3.013835	1.431072	2.105998	0.0443
LOGSDEUSD(-2)	-0.197994	0.072427	-2.733708	0.0107
LOGSOLDISD(-3)	0.227938	0.079682	2.860605	0.0079
DLOGRATAREZVAL(-1)	8.343956	4.175712	1.998211	0.0555
DLOGINTRARIVEN(-1)	-0.504986	0.099278	-5.086611	0.0000
DLOGDATORIEEXT	-5.659812	3.150148	-1.796681	0.0832
R-squared	0.825040	Mean dependent var		0.024360
Adjusted R-squared	0.775051	S.D. dependent var		0.689418
S.E. of regression	0.326982	Akaike info criterion		0.809952
Sum squared resid	2.993690	Schwarz criterion		1.201797
Log likelihood	-5.984117	F-statistic		16.50456
Durbin-Watson stat	1.846593	Prob(F-statistic)		0.000000

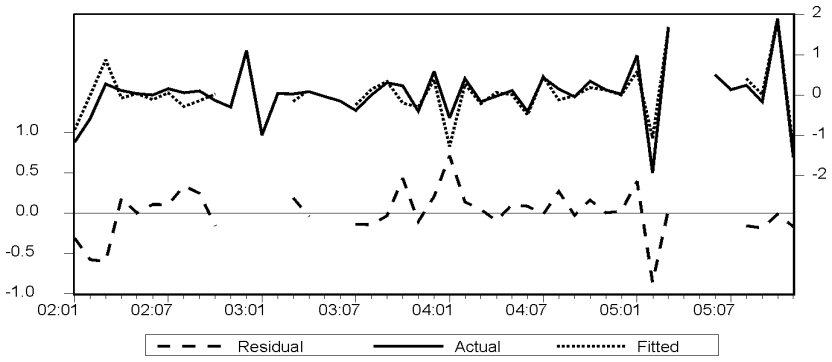
From this equation, one may notice that the incomes inputs depend directly on the ratio of the foreign currency reserves established by the NBR and on the evolution of the monetary base, which is also controlled by the NBR. However, these two monetary factors are connected because the available funds in lei or currency that the banks have at the NBR are included in M0 and they depend on the currency reserves ratio established by the central bank. The fact that the credits have not been granted so easily lately, due to increasing the ratio of the minimum foreign currency reserves by the NBR, caused a rise in the interest rates of the foreign currency credits in the economy, and, therefore, a rise in the interest receivable and in the external dividends. The great number of the facilities for the deposits with the NBR and the balance of the direct foreign investments also influence in the same way the money received, which proves the fact that, to a certain extent, by resorting to certain policies the NBR has tried and succeeded to stimulate the reinvestment of the profit obtained

by the foreign companies and not its repatriation, which would have generated major outputs of the income obtained from dividends.

Among the factors that influence the income inputs in the country in the opposite way, the most important one seems to be the level of the external debt, followed by the variation of the NBR's reserve assets and the evolution of the interest rate granted by theNBR in the facilities for the bank deposits made by the trading banks. At the same time, the evolution of the debt service influences the income input in the opposite way.

The determination coefficient R^2=0.82 is a good one, but it indicates that there are other factors that influence the income inputs. The DW test indicates the lack of the first order adjustment of errors, and the Q-state test underlines the same idea.

The graph of errors shows the exceeding of the margin especially at the beginning of the years 2002, 2004 and 2005. In 2002, in the case of payments one can speak of an increase in the repatriated profits share obtained from direct investments and portfolio investments, as well as an increase in the income obtained from work, due to reducing the share of the interest borne by medium and long-term loans and credits.



In 2004, the income balance had a large deficit especially because of the large volume of the non-residents' income obtained from direct investments (reinvested profit and dividends).

The negative influence of the flows of goods and services on the current account was diminished by about 9% of the deficit of the income balance in 2005, the value of the current account decreasing.

The following equation is obtained for the balance of the direct foreign investments:

$$soldisd = f(active_{-t}, euroreal_{-t}, mdobcredlomb_{-t}, mdobfacilit_{-t}, sdeusd_{-t}, extusd_{-t}, soldisd_{-t}) \quad (3)$$

LOGSOLDISD = 1,905699*LOG(ACTIVE(-3)/ACTIVE(-4)) - 4,213152*LOG(EUROREAL/EUROREAL(-1)) + 1,951383*LOG(MDOBCREDLOMB(-1)/MDOBCREDLOMB(-2)) – 1,445609*LOG(MDOBFACILIT(-1)/MDOBFACILIT(-2)) + 0,967533*LOGSDEUSD – 0,314182*LOGEXTUSD(-2) + 0,382961*LOGSOLDISD(-2)

Dependent Variable: LOGSOLDISD
Method: Least Squares
Date: 09/30/06 Time: 13:49

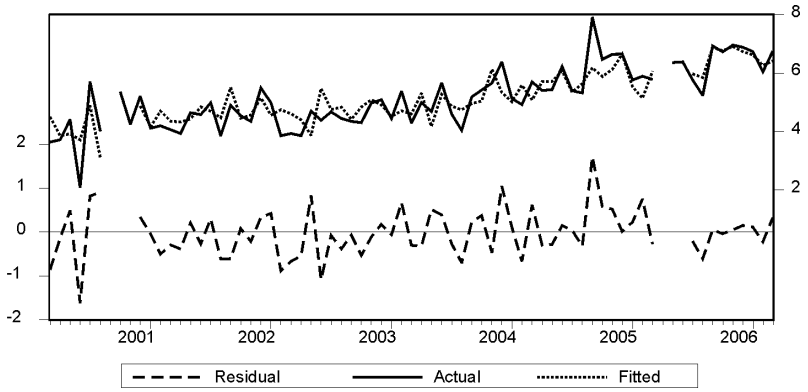
Sample(adjusted): 2000:03 2006:03
Included observations: 69
Excluded observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOGACTIVE(-3)	1.905699	0.737157	2.585200	0.0121
DLOGEUROREAL	-4.213152	1.993032	-2.113941	0.0386
DLOGMDOBCREDLOMB(-1)	1.951383	1.095089	1.781941	0.0797
DLOGMDOBFACILIT(-1)	-1.445609	0.506628	-2.853392	0.0059
LOGSDEUSD	0.967533	0.145302	6.658772	0.0000
LOGEXTUSD(-2)	-0.314182	0.102586	-3.062629	0.0032
LOGSOLDISD(-2)	0.382961	0.086225	4.441395	0.0000

R-squared	0.717287	Mean dependent var	5.142741
Adjusted R-squared	0.689927	S.D. dependent var	1.040416
S.E. of regression	0.579347	Akaike info criterion	1.842096
Sum squared resid	20.80986	Schwarz criterion	2.068745
Log likelihood	-56.55231	F-statistic	26.21725
Durbin-Watson stat	2.179970	Prob(F-statistic)	0.000000

As one may notice from the obtained results, the factor which has the greatest influence is the evolution of the real ROL-EUR exchange rate, which influences the ISD in the opposite way. The next factors which have a direct influence are the interest taken by the NBR for the Lombard credit and the variation of the net reserve assets, followed by the evolution of the rate of the interest granted by the NBR in the facilities for the bank deposits made by the trading banks, which influence in the opposite way the direct foreign investments. The foreign debt service and the previous evolution of the ISD influence the present investments directly, whereas the export influences the investments in the opposite way.

In the case of ISD, the residuals graph shows exceedings of the allowed margins at the middle of 2000 and in the second half of 2004.



In 2000, in spite of the negative effects of the election year, the net direct investments exceeded slightly the level of 1999. Thus, 2000 was the fourth year in the run when the net direct investments were the main financing source of the current account deficit. The limitation of the direct investments was the result of limiting, ever since

April 1999, of the car and machinery imports because of the elimination of the customs facilitates granted to foreign investors, but also because of the instability of the legal framework.

In 2004, the net direct investments exceeded those of the previous years because of the increased number of participants to the capital and because of the reinvested profit in banking and non-banking field have increased. Buying 25% out of the shares of the Romanian Commercial Bank by the BERD and CFI and the privatization of SNP Petrom by the OMV Austrian oil group have also contributed to the significant increase in the direct investments in 2004.

The fourth equation analyses the portfolio investments input and their influence factors:

$$intrariportof = f(datorieext_{-t}, mdobfacilit_{-t}, facilit_{-t}, soldisd_{-t}, mtaxasco_{-t}, intrariport_{-t}) \quad (4)$$

LOGINTRARIPORT = 24.94211*LOG(DATORIEEXT/DATORIEEXT(-1)) –– 1.503384*LOG(MDOBFACILIT(-3)/MDOBFACILIT(-4)) + 0.110803*LOG(FACILIT(-2)/FACILIT(-3)) + 0.240181*LOGSOLDISD –4.760183*LOG(MTAXASCO(-2)/MTAXASCO(-3)) + 0.483987*LOG(INTRARIPORT(-1)/INTRARIPORT(-2))

Dependent Variable: LOGINTRARIPORT
Method: Least Squares
Date: 09/26/06 Time: 16:39
Sample(adjusted): 2002:03 2006:03
Included observations: 41
Excluded observations: 8 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOGDATORIEEXT	24.94211	6.421754	3.884003	0.0004
DLOGMDOBFACILIT(-3)	-1.503384	0.706718	-2.127274	0.0405
DLOGFACILIT(-2)	0.110803	0.060973	1.817226	0.0778
LOGSOLDISD	0.240181	0.084233	2.851371	0.0073
DLOGMTAXASCO(-2)	-4.760183	2.254051	-2.111834	0.0419
LOGINTRARIPORT(-1)	0.483987	0.110110	4.395505	0.0001

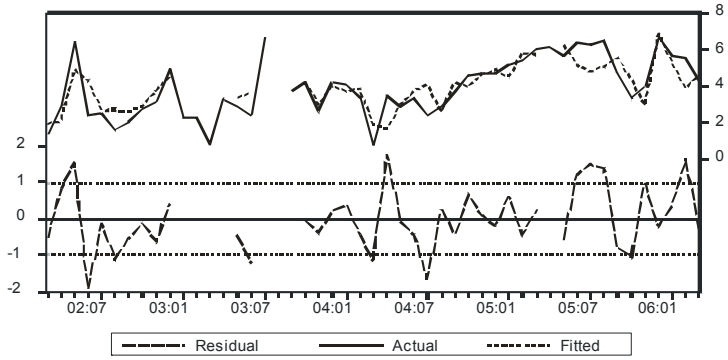
R-squared	0.669585	Mean dependent var	3.992929
Adjusted R-squared	0.622383	S.D. dependent var	1.547789
S.E. of regression	0.951124	Akaike info criterion	2.872115
Sum squared resid	31.66232	Schwarz criterion	3.122882
Log likelihood	-52.87836	F-statistic	14.18550
Durbin-Watson stat	2.157291	Prob(F-statistic)	0.000000

The strongest direct influence on the portfolio investments input has the variation in the external debt, a fact that can be accounted for the bond issues in the case of foreign debt. Next, there are two monetary factors which are a part of the tools used by NBR, i.e. the monthly reference interest rate and the monthly interest rate in the case of the facilities granted for deposits (which influence in the opposite way the portfolio investments input.). Then, there is a variation in the previous portfolio

investments and the FDI balance, both of them having a certain direct influence, and the current portfolio investments. The last factor validated by the test is the volume of the facilities granted by the NBR fto the other banks that make deposits, which has also a direct influence on the portfolio investments.

The residuals graph shows the exceeding of the allowed margins in 2002, when the portfolio investments input increased because of a public Eurobond issue coordinated by the Credit Deutsche Bank AG for financing the budgetary deficit, and because of the Eurobonds issued by SNCFR Merchandise S.A., by Deutsche Bank. Besides these, one may speak of errors at the middle of 2004 and 2005. In 2004, one may speak of net portfolio investments output (as compared with the net input in 2003) because of buying external financial titles, transaction that took place in the banking field.

In 2005, one may speak about net portfolio investments as a result of buying Eurobond issues of the General Town Hall of the City of Bucharest and the Commercial Bank of Romania.



Using the four equations in turn in the system enabled the estimation of the coefficients that influence each in turn variable (Annex 1). The coefficients are not rejected, they have similar values and the R^2 coefficient states that the equations are also maintained, which shows the fact that the equations are correctly set.

As we said before, the monetary factor which has the most important influence on the evolution of the Romanian exports is the using of the reference interest, three lags before, which influences the interest rates in the economy and, thus, influences the value of the credit for exports. The evolution of the interest rate offered by NBR for the minimum reserves in lei of the banks also influences the Romanian exports in a quarter. In order to encourage the exports, the NBR should resort to increasing these interest rates. The effect will be felt after three months.

It was noticed that the income input directly depends on the rate of the minimum foreign reserves set by the NBR and on the evolution of the monetary base, which is also controlled by the BNR. In the same way, the volume of the facilities granted by the NBR when making deposits also influences the income input. The NBR must increase the minimum foreign reserves and the volume of the facilities granted to banks when making deposits, while reducing the interest for the facilities granted for making deposits, because these influence the income input in the opposite way. A

more rigorous control of the liquid assets will have as effect a decreasing inflation and, thus, one will obtain income input from interests, dividends and work.

As one may notice from the obtained results, the factor that has the greatest influence on the FDI is the evolution of the real ROL-EUR exchange rate, which has an opposite influence on the FDI. The following factors, which have a direct influence on FDI are the interest taken by the NBR for the Lombard credit, followed by the evolution of the interest rate granted by the NBR for the facilities in case of the deposits made by the commercial banks, which influence the direct foreign investments in the opposite way. Thus, the NBR must sustain the current appreciation of the ROL as compared to the euro to stimulate the FDI and this fact must be achieved not by the direct intervention of the NBR on the market but by increasing the interest for the Lombard credit in order to discourage the credit granting and by reducing the interest for the facilities in case of deposits. Thus, the NBR should control the liquidity on the market better and eliminate a possible surplus of liquidity when there is no inflation, keeping, at the same time, the appreciation tendency of the ROL, which is meant to stimulate the FDI.

There come other three monetary factors, which are part of the tools used by the NBR, i.e. the minimum foreign reserves rate (with a direct influence) and the monthly reference interest (which influences the portfolio investments input in the opposite way). Then, there comes the variation in the deposits opened with the NBR by banks that influence the portfolio investments input in the opposite way. The variation in the volume of the facilities in the case of deposits and of the interest rate granted by NBR for these deposits have a direct influence on the portfolio investments input, but their influence is not so important.

The last equation, that of the portfolio investment inputs, indicates the use of the monetary tools mentioned above in the same direction. That is, the volume of the facilities granted by the NBR for the deposits made by banks must be stimulated in the circumstances of reducing the interest rate for them. If in the case of the stimulation of the exports the results indicated an increase in the reference interest, which was complementary to the increase in the interest offered by the minimum reserves in order to stimulate the portfolio investments, the results of the tests indicated a different influence that the increase in the reference interest had on such a kind of investments input. The increase in the reference interest aimed at reducing the liquidity on the market, but this can also be achieved without this increase, which would hinder the portfolio investments. Therefore, other measures can also be suggested, such as: the increase in the minimum reserves and in the bonus interest granted by the NBR, and the increase in the facilities in the case of deposits, which are lighter measures that will not directly affect the interest rates in the economy and, thus, will not hinder the domestic economic activity by their increase.

3. Conclusions

In the case of Romania, the transition to the market economy had a surprising evolution. Thus, Romania has a distinct negative place among the countries in the Central and Eastern Europe - and even in the world - which have passed from the centralized economy to the market one, by maintaining a high level of the interest for a long period of time, by the very low level of banking intermediation, the few credits

offered to companies, by the dramatic depreciation of the exchange rate of the national currency, in fact by destroying this currency.

The National Bank is guilty for the long-lasting crisis of the Romanian economy. It has undermined this economy because of some actions:

- It has encouraged and stimulated some high interest rates effectively over very long periods of time.
- It has suffocated the credit both by high interests and specific measures taken in the relations with the commercial banks; thus, NBR has become a huge money trustee by all kinds of deposits.
- It has not supported the national currency, stimulating the dramatic fall of its quotation.
- It has not supervised the banking system in a competent way, because of a faulty management, encouraging frauds, and, in the end, the bankruptcies of some banks which had dramatic consequences on the companies and on the population.

In the first decade of the transition, the monetary policy of the NBR was based especially on some very restrictive monetary tools, such as maintaining for a long time a high discount rate and a high minimum reserve rate for lei. Their high level, as compared to that of the other economies in transition, caused the maintaining of high interest rates in the entire banking system, and this has not stimulated the economy and the domestic investments. Moreover, these high rates have not succeeded in attracting the foreign investments which dramatically decreased after the boom which took place at the beginning of the '90s, because of the domestic economic and politic conditions.

For one decade, in our country the discount rate has been much higher than in many other ex-socialist countries. The evolution of the discount rate in the case of other central banks in the Central and Eastern Europe which have passed from the centralized economy to the market one, presented in the graph below, show important differences between our country and the majority of the countries taken into account, to the detriment of our country.

In Romania, in the analysed period the rate of the discount was three times higher than that in the Czech Republic, two times higher than that in Hungary, four times higher than that in Slovenia and five times higher than that in Slovakia.

The conclusion is that the central banks in the countries taken into account considered a high rate of the discount as something abnormal, which they either avoided or eliminated after a few years. For the National Bank of Romania, this abnormal thing has become a permanent one and, for a long time, it has been one of the premises of encouraging the high rates of the income in the Romanian market.

The level of the interest on the minimum reserve requirement in lei and in currency is very important for the evolution of the financial-banking market, having a direct or indirect influence on the following elements:

- the banks' strategy to attract and invest funds both on a short and on a medium and long term;

- sustaining the economy by means of crediting (the higher the level of the rate is the fewer funds for making such investments as credits, inter-bank deposits, government securities);
- the access to credits with attractive interest (the higher the rate of the reserves is and the more reduced the bonus interest is, the more forced the banks are to increase the interest for the other investments from funds that are available after building up the minimum reserve requirement);
- the banks' level of profitability (investments in the minimum reserve requirement have a low level of interest as compared to other types of assets).

The higher the rate of the minimum reserve requirement is the better the banking liquidity is, in general. However, we cannot overlook certain malfunctions that occurred in the case of some banks, which went bankrupt even if they had had a rather high rate of the reserves, which leads us to the idea that the minimum reserve requirement alone can not avoid the bankruptcy of a bank with a faulty management. At the most, the signal of failing to build up the minimum reserve requirement - the incapacity of having the minimum liquidity stated by the BNR - can eliminate the effects that can come one after another in the case of a liquidity crisis which a bank can be confronted with.

In certain special cases (especially on the international financial-banking market) the Central Bank can involve to settle the problem and monitor the crisis by granting an emergency financing only if there are sureties for sureties corresponding to costs which are inferior to those required by the competitors on the market.

The interventions of the National Bank on the monetary market have, in fact, a more important influence on the interest rate than the rate of discount, in the same direction: to support high rates. Thus, one of the causes of the high interests existing in Romania for about one decade is the high rate of the minimum reserve requirement.

Taking a look at the evolution of the rate of the minimum reserves in Romania, one may notice the fact that the Central Bank has made increasingly use of this tool of monetary policy, especially since 1999, when the rates of the minimum reserve requirement in lei and currency were increased, in order to control as strictly as possible the inter-banking liquidity and to obtain supplementary funds at a low interest. The maximum level reached by the rate of the minimum reserve requirement in lei is 30% and it remained as such for more than one year and a half. It was reduced only in the second part of 2001.

In order to have a clear picture of the financial effort to eliminate the inter-banking liquidity which NBR had to make in 2001 by reducing the rate of the reserves in lei from 30% to 27%, mention can be made of the fact that the liquidity surplus, which was the result of this measure, was of thousands of billions lei. Thus, this amount had to be absorbed by the market by means of "open market" operations, but at the interest of the market not at that corresponding to the minimum reserves made up by the NBR, as it used to happen before reducing the rates.

The minimum reserve requirement (MRR) is one of the tools of the mix of monetary policies used by the central banks to control the liquidity in the economy. Basically, the essence of the respective banking tool is that the central bank makes the commercial

banks to lock up a part of the taxes collected from the market in accounts opened with the monetary authority.

As a consequence, the resources oriented towards the operations of crediting the economy by a commercial bank can be obtained by subtracting the total of the collected deposits from the reserves kept by them in accounts opened at the central bank.

As a rule, in our country the rate of these deposits was high, sometimes very high. For example, starting in the second half of 1999 its value has increased to 20% and in 2000 and in the first part of 2001 it was 30%.

In other words, in certain periods a third of the resources of the banks were locked up in accounts as minimum reserve requirement. They could not be used in crediting and financing the national economy, which had a lack of liquidity. Because of this, the level of the interest earned set by the commercial banks was increased.

Thus, the access of the companies to the credits was limited and, in the case of those which engaged a credit, the cost of this financing has increased, their profits have been diminished and the value of the salaries has diminished and the budgetary deficit has worsened because the profit tax was reduced as a result of the decrease in the dutiable income.

Having in view the above-mentioned facts, modifying the level of the rate of the reserves has a strong influence on the level of interests in the case of the credits granted by the commercial banks.

It is also worth noticing that there was a low level of the interest in the case of the minimum reserve requirement, a lot below the market average. For example, in Romania during 1997-1999 in the case of the minimum reserve requirement the NBR has made up an interest of about 20% out of the interest imposed by the commercial banks in the case of credits. In 2000 and 2001, this value increased to about 40-50 % (apparently, because of the pressures exerted by the IMF). It is obvious that this low level of the interest rate, in the case of the minimum reserve requirement, which is totally insufficient to cover the deposit interests, had to be covered by the commercial banks using the interest they collected from the credits, which, therefore, they had to increase.

Currently, the NBR has reduced the level of these rates, and its policy is based on more proper, less restrictive and more flexible tools which do not influence mainly the interest rates in the banking system but which, however, succeed to influence the bank credit and, as we have shown, the external situation, too, which is reflected by the balance of payments. The tools were such as the facilities in the case of deposits granted to banks and their respective interest, the deposits attracted by the NBR from the commercial banks and their respective interest, the interest in the case of the Lombard loans, the interest rate made up by the NBR in the case of the minimum reserve in lei and currency, all on the background of reducing the reference interest and the minimum reserves in lei and increasing the minimum reserves in currency to limiting the currency credit and stimulating that in lei granted by the banks. Theses tools allow the possibility of a proper control of the monetary base M0 and of the liquidity on the monetary market, thus supporting the declared objective of the NBR to control the inflation, but, at the same time, reaching the equilibrium of the balance of payments in a sustainable way.

Therefore, the monetary policy of the NBR did not support the efforts to recover the economy. Almost during the entire decade, the monetary policy was harsh, restrictive, basically oriented towards controlling inflation, thus neglecting the other macroeconomic variables, such as the local savings discouraged by the high inflation, and the investments that would have supported the economic growth. This has caused major imbalances at the macroeconomic level, which have reflected in all the levels of economy. Among these imbalances, the most important and the one that lasted the longest period of time was the external one. The re-orientation of the policy of NBR at the beginning of the new decade was meant to support both the objective of the domestic balance and that of the external balance.

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Annex

System: SYS01
Estimation Method: Least Squares
Date: 10/01/06
Time: 15:18
Sample: 1999:01 2006:03

	Coefficient	Std. Error	t-Statistic	Prob.
C1(1)	0.636476	0.164265	3.874692	0.0001
C1(2)	1.379749	0.432917	3.187098	0.0017
C1(3)	0.903059	0.036252	24.91042	0.0000
C1(4)	0.078653	0.037502	2.097274	0.0372
C1(5)	1.905699	0.737157	2.585200	0.0104
C1(6)	-4.213152	1.993032	-2.113941	0.0357
C1(7)	1.951383	1.095089	1.781941	0.0762
C1(8)	-1.445609	0.506628	-2.853392	0.0048
C1(9)	0.967533	0.145302	6.658772	0.0000
C1(10)	-0.314182	0.102586	-3.062629	0.0025
C1(11)	0.382961	0.086225	4.441395	0.0000
C1(12)	24.94211	6.421754	3.884003	0.0001
C1(13)	-1.503384	0.706718	-2.127274	0.0346
C1(14)	0.110803	0.060973	1.817226	0.0706
C1(15)	0.240181	0.084233	2.851371	0.0048
C1(16)	-4.760183	2.254051	-2.111834	0.0359
C1(17)	0.483987	0.110110	4.395505	0.0000
C1(18)	-1.331209	0.546341	-2.436591	0.0157
C1(19)	-1.249160	0.247744	-5.042148	0.0000
C1(20)	0.109259	0.025046	4.362438	0.0000
C1(21)	3.013835	1.431072	2.105998	0.0364
C1(22)	-0.197994	0.072427	-2.733708	0.0068
C1(23)	0.227938	0.079682	2.860605	0.0047
C1(24)	8.343956	4.175712	1.998211	0.0470
C1(25)	-0.504986	0.099278	-5.086611	0.0000
C1(26)	-5.659812	3.150148	-1.796681	0.0739

Determinant residual covariance 0.000667

Equation: LOGEXTUSD = C1(1)*DLOGMDOBREZLEI(-3) + C1(2)*DLOGMTAXASCO(-3) + C1(3)*LOGIMPUSD +C1(4)*LOGEXTUSD(-2)
Observations: 83

R-squared	0.881488	Mean dependent var	7.295301
Adjusted R-squared	0.876988	S.D. dependent var	0.552833
S.E. of regression	0.193895	Sum squared resid	2.970039
Durbin-Watson stat	2.055828		

Equation: LOGSOLDISD = C1(5)*DLOGACTIVE(-3) + C1(6)*DLOGEUROREAL +

C1(7)*DLOGMDOBCREDLOMB(-1) + C1(8)*DLOGMDOBFACILIT(-1) +
C1(9)*LOGSDEUSD + C1(10)*LOGEXTUSD(-2) + C1(11)*LOGSOLDISD(-2)
Observations: 69

R-squared	0.717287	Mean dependent var	5.142741
Adjusted R-squared	0.689927	S.D. dependent var	1.040416
S.E. of regression	0.579347	Sum squared resid	20.80986
Durbin-Watson stat	2.179970		

Equation: LOGINTRARIPORT = C1(12)*DLOGDATORIEEXT +
C1(13)*DLOGMDOBFACILIT(-3) +C1(14)*DLOGFACILIT(-2) + C1(15)*
LOGSOLDISD + C1(16)*DLOGMTAXASCO(-2) + C1(17)*LOGINTRARIPORT(-1)
Observations: 41

R-squared	0.669585	Mean dependent var	3.992929
Adjusted R-squared	0.622383	S.D. dependent var	1.547789
S.E. of regression	0.951124	Sum squared resid	31.66232
Durbin-Watson stat	2.157291		

Equation: DLOGINTRARIVEN = C1(18)*DLOGACTIVE +
C1(19)*DLOGMDOBFACILIT(-1) +
C1(20)*DLOGFACILIT + C1(21)*DLOGM0 + C1(22)*LOGSDEUSD(-2) +
C1(23)*LOGSOLDISD(-3) + C1(24)*DLOGRATAREZVAL(-1) +
C1(25)*DLOGINTRARIVEN(-1) + C1(26)*DLOGDATORIEEXT
Observations: 37

R-squared	0.825040	Mean dependent var	0.024360
Adjusted R-squared	0.775051	S.D. dependent var	0.689418
S.E. of regression	0.326982	Sum squared resid	2.993690
Durbin-Watson stat	1.846593		