The Analysis of Dependence of Household Deposits and Loans from the Money Supply

Gina Ioan[1], Cătălin Angelo Ioan[2]

Abstract: The article deals the dependence of deposits and household loans from money supply. Conclusions reached in the case of regression analysis reveals a very close dependence indicators over the previous year (90%) and the money supply.

Keywords: monetary; policy; interest

JEL Classification: EOO

1. Monetary Policy

Monetary policy along side fiscal represent the most important tools of the economic policy mix variables that can influence the economy.

The importance of monetary policy lies in the fact that it watches or should ensure direct, carefully and responsibly on the nominal economy and indirectly, accompanied, naturally, by the fiscal policy, the real economy.

Dynamics of monetary policy and interest rates affect income and employment. Lately it has seen such an expansionary fiscal policy resulted primarily from higher interest rates and thereby to diminish the desired effects in the real economy.

Variation in interest rates has an important side effect. The components of aggregate demand (consumption and investment) mainly depend on the interest rate.

Responsible for development and implementation of monetary policy is the Central Bank. In this regard and also to support the Government's economic policy, central

[1] Senior Lecturer, PhD, Department of Finance and Business Administration, Danubius University of Galati, Romania, Address: 3 Galati Blvd., Galati 800654, Romania, Tel.: +40372361102, Corresponding author: ginaioan@univ-danubius.ro.
[2] Associate Professor, PhD, Department of Economics, Danubius University of Galati, Romania, Address: 3 Galati Blvd., Galati 800654, Romania, Tel.: +40372361102, E-mail: catalin_angelo_ioan@univ-danubius.ro.

banks use one of three quantitative monetary anchors: targeting exchange rates, money supply or inflation.

According to economic literature and factual earlier records, in the relationship between price stability and financial stability, inflation is considered the main source of financial instability (Woodford, 2011).

We can say that price stability is of great importance, both in monetary policy and in economic policy, along with full employment of labor, sustainable economic growth, external balance of payments and budget deficit reduction.

Theoretically, all these objectives can be achieved through economic policy components: monetary policy, fiscal policy, revenue policy, trade policy. Factual records showed, however, that simultaneous targeting all of these goals is a process quite difficult, most often a target stability leading to destabilization another. Therefore, targeting wise a nominal anchor and accuracy of all measures of the economic policy mix are the result of a sustainable macro that depends not only sustainable economic growth but also economic development as sustainable translated into a level decent living.

Since 2005, the National Bank of Romania formally adopt inflation targeting strategy, decision driven mainly by deflation in the previous period (decrease inflation from 45.7% in 2000 to 9% in 2005) as well as fiscal dominance it was not considered a major risk. Using the exchange rate as a nominal anchor anti-inflationary, was abandoned due to capital account liberalization.

In an economy, price dynamics can be influenced by both exogenous and endogenous factors. If on short-term, price dynamics, with direct effect on aggregate demand and supply, can not be controlled by monetary policy instruments, on long-term role, monetary instruments role on prices is fundamental.

Such an objective, as inflation targeting, is quite brave and therewith complex. To ensure price stability, the National Bank should keep under review the entire range of factors that can have an impact on price trends.

The most important channels of transmission of monetary policy according to both literature and factual records are:

- channel interest rates;
- credit channel;
- exchange rate channel;
- channel inflation expectations of economic agents.

A prerequisite to achieve the desired economic effects is that the connection between the economy and monetary policy (transmission mechanism) must exist and function effectively.

Through the interest rate channel, the effects of monetary policy decisions are transmitted from retail banking to the real economy, the disadvantage being that of an external gap (time) larger than originally existing in the interbank.

The interest rate monetary policy and inflation expectations, economic growth, interest rates influence the medium and long practiced by commercial banks which, in turn, have a huge impact, boosted by the credit channel to the real economy. At the same time, interest rates controlled by monetary policy can act on motivation traders to hold national currency (foreign) to the disadvantage of foreign (national), being an important factor influencing partially exchange rate dynamics.

Returning to the strategic objective of inflation targeting by the National Bank of Romania during the period 2000-2015, it has set targets rather courageous, especially in the first two years of the time period analyzed. Huge gap between registered and NBR target annual inflation in 2000 and 2001 can not be justified because not very stable macroeconomic context of that time visible in low efficiency of structural policies. This forced a reassessment of monetary policy stance, entailing a prudential character in order to mitigate the impact of inflation on the one hand and to temper inflation expectations on the other.

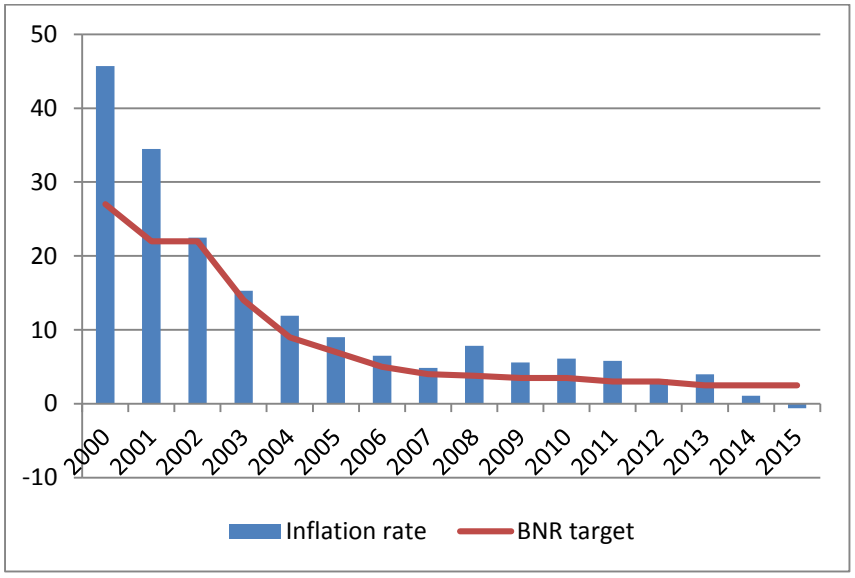

Figure 1. Difference between inflation rate and the inflation target set by the National Bank of Romania during 2000-2015

In the period preceding the economic crisis, 2002-2007, the approach to the inflation target set by NBR (particularly in 2002 and 2007) was made possible by means of a more coherent policy mix, characterized by an increased restrictiveness (a wage policy tighter below the labor productivity dynamics in the industry), a favorable

evolution of Romanian exports, a lower pressure to regulated prices on the market-determined, as well as an improvement in the external position of the Romanian economy, the current account deficit decreasing in 2002 to 3.4% of GDP.

In the next period, the difference between the inflation rate and the target set was quite small, and in 2007, although it was located at a value of 0.84% can not speak of a performance in this aspect. The result is due on the one hand appreciation of the national currency (2007/2006 percentage change in real terms) and, on the other hand, a constant developments in administered prices. But disinflation path recorded in the first two quarters of 2007 (with an inflation rate of 3.7% and 3.8%) was interrupted by deficit pressures of agricultural products and the depreciation of the national currency (-3.3% variation December 2007/December 2006 in real terms). Moreover, an adverse effect on disinflation had (not only in 2007) the mismatch with the labor productivity growth of the real wage, which in 2005, 2007 and 2008 was even surpassed by the latter.

Although the causes and determinants of inflation requires a more complex approach, we allow us to draw a first conclusion regarding the subordination and monetary policy in the disinflation process. Such an objective, like that of inflation targeting can be achieved only if based on a strict correlation of macroeconomic policies, knowing that short-term price developments is subject to both exogenous and endogenous factors in the economic environment.

Performances in terms of inflation targeting in countries that have chosen this nominal anchor both developed and emerging confirms that such a moment should be chosen very carefully. Adopting a system of inflation targeting closely correlated with macroeconomic variables (the previous adjustment of existing imbalances, choosing targets numerical either as a range, or as point inflation rate existing before that time) allows monetary policy to focus on other instruments which act indirectly on aggregate demand and supply, influencing long-term price developments (Mishkin, 2000).

2. The Regression Analysis

For the beginning we will search the dependence of household deposits from M2 money supply.

Table 1. Money supply (M2) during 2007-2009

Data	Money supply (M2) - thousand lei 2007	Data	Money supply (M2) - thousand lei 2007	Data	Money supply (M2) - thousand lei 2007
ian. 2007	106255019.4	ian. 2008	136725080.7	ian. 2009	154348271.5
feb. 2007	109241038.5	feb. 2008	138790138.7	feb. 2009	154408098.7
mar. 2007	112348667.3	mar. 2008	140745596.7	mar. 2009	153568236.8
apr. 2007	112943784.6	apr. 2008	145614034.7	apr. 2009	154381907.7
mai. 2007	112663824.4	mai. 2008	146099452.2	mai. 2009	155095421.8
iun. 2007	116127356.6	iun. 2008	149710689.6	iun. 2009	157607855.6
iul. 2007	119933504.6	iul. 2008	149486025.7	iul. 2009	158390264.2
aug. 2007	124293019.3	aug. 2008	150468126.4	aug. 2009	160508575.1
sept. 2007	126507930.1	sept. 2008	153929453.0	sept. 2009	160285971.3
oct. 2007	128738318.8	oct. 2008	150345421.4	oct. 2009	160314452.2
nov. 2007	136108960.4	nov. 2008	152406257.1	nov. 2009	161625880.9
dec. 2007	148043598.8	dec. 2008	160991019.6	dec. 2009	165099192.1

Source – National Bank of Romania

Table 2. Money supply (M2) during 2010-2012

Data	Money supply (M2) - thousand lei 2007	Data	Money supply (M2) - thousand lei 2007	Data	Money supply (M2) - thousand lei 2007
ian. 2010	152530612.1	ian. 2011	153359889.1	ian. 2012	160859098.6
feb. 2010	153688395.5	feb. 2011	152415539.6	feb. 2012	161684755.7
mar. 2010	155462547.0	mar. 2011	150928984.9	mar. 2012	162259747.3
apr. 2010	155821530.1	apr. 2011	150989924.4	apr. 2012	163806130.1
mai. 2010	157356958.0	mai. 2011	152274863.9	mai. 2012	165503609.5
iun. 2010	159152696.1	iun. 2011	153423698.2	iun. 2012	163896049.2
iul. 2010	157906293.3	iul. 2011	156076103.4	iul. 2012	167392373.3
aug. 2010	159482356.4	aug. 2011	156855164.2	aug. 2012	166601052.0
sept. 2010	159410582.0	sept. 2011	160217110.0	sept. 2012	167170590.2
oct. 2010	158676959.1	oct. 2011	159059893.2	oct. 2012	166758976.5
nov. 2010	160741424.8	nov. 2011	160443131.8	nov. 2012	166967873.3
dec. 2010	165189459.1	dec. 2011	165918405.5	dec. 2012	167969733.5

Source – National Bank of Romania

Table 3. Money supply (M2) during 2013-2016

Data	Money supply (M2) - thousand lei 2007	Data	Money supply (M2) - thousand lei 2007	Data	Money supply (M2) - thousand lei 2007
ian. 2013	160327378.3	ian. 2014	170784070.5	ian. 2015	186833659.8
feb. 2013	160440020.2	feb. 2014	172394329.6	feb. 2015	186376973.5
mar. 2013	164690383.8	mar. 2014	169988545.3	mar. 2015	184009189.8
apr. 2013	165009491.0	apr. 2014	170904310.8	apr. 2015	185580936.9

mai. 2013	165210150.5	mai. 2014	174319988.0	mai. 2015	185747907.5
iun. 2013	166484332.0	iun. 2014	173563792.2	iun. 2015	188024658.9
iul. 2013	165121263.1	iul. 2014	174203971.4	iul. 2015	187426357.1
aug. 2013	167997808.4	aug. 2014	175753930.0	aug. 2015	188982274.1
sept. 2013	169187862.7	sept. 2014	176254582.6	sept. 2015	190044748.1
oct. 2013	170854972.2	oct. 2014	177233715.3	oct. 2015	191073946.5
nov. 2013	171705571.5	nov. 2014	180582768.8	nov. 2015	194361616.0
dec. 2013	176498252.5	dec. 2014	189554934.2	dec. 2015	206280807.1
				ian. 2016	193026133.2
				feb. 2016	192818612.7
				mar. 2016	190800719.2

Source – National Bank of Romania

Table 4. Household Deposits during 2007-2009

Data	**Deposits - thousand lei 2007**	**Data**	**Deposits - thousand lei 2007**	**Data**	**Deposits - thousand lei 2007**
ian. 2007	46963152	ian. 2008	64234813	ian. 2009	77070484
feb. 2007	48805405	feb. 2008	66383138	feb. 2009	78497944
mar. 2007	50533743	mar. 2008	67885750	mar. 2009	79130551
apr. 2007	51504701	apr. 2008	69654980	apr. 2009	80045249
mai. 2007	52042138	mai. 2008	70385793	mai. 2009	80329500
iun. 2007	53185369	iun. 2008	72199797	iun. 2009	81770817
iul. 2007	55272243	iul. 2008	72415773	iul. 2009	82428693
aug. 2007	56880455	aug. 2008	73217780	aug. 2009	82834386
sept. 2007	58546170	sept. 2008	75123311	sept. 2009	82751800

oct. 2007	59697166	oct. 2008	72831038	oct. 2009	83691440
nov. 2007	63199044	nov. 2008	73622782	nov. 2009	84554065
dec. 2007	67315557	dec. 2008	76785930	dec. 2009	85416615

Source – National Bank of Romania

Table 5. Household Deposits during 2010-2012

Data	**Deposits - thousand lei 2007**	**Data**	**Deposits - thousand lei 2007**	**Data**	**Deposits - thousand lei 2007**
ian. 2010	80628542	ian. 2011	81847132	ian. 2012	86963188
feb. 2010	81963346	feb. 2011	82381809	feb. 2012	87827840
mar. 2010	82511994	mar. 2011	81800027	mar. 2012	88471556
apr. 2010	83420562	apr. 2011	81757989	apr. 2012	89433257
mai. 2010	83732103	mai. 2011	82269386	mai. 2012	90124366
iun. 2010	84836197	iun. 2011	83250930	iun. 2012	90232026
iul. 2010	83832360	iul. 2011	84562879	iul. 2012	91626938
aug. 2010	83800570	aug. 2011	84297184	aug. 2012	90676973
sept. 2010	83385658	sept. 2011	85953365	sept. 2012	91508515
oct. 2010	83284503	oct. 2011	85806421	oct. 2012	91963940
nov. 2010	84006174	nov. 2011	86748440	nov. 2012	92504544
dec. 2010	86114608	dec. 2011	88270277	dec. 2012	92688462

Source – National Bank of Romania

Table 6. Household Deposits during 2013-2016

Data	Deposits - thousand lei 2007	Data	Deposits - thousand lei 2007	Data	Deposits - thousand lei 2007
ian. 2013	90209516	ian. 2014	95287552	ian. 2015	100370878
feb. 2013	90673299	feb. 2014	95453344	feb. 2015	100407806
mar. 2013	92479140	mar. 2014	94493341	mar. 2015	100445223
apr. 2013	91735167	apr. 2014	95019087	apr. 2015	100997811
mai. 2013	91697212	mai. 2014	94594873	mai. 2015	101282254
iun. 2013	92511405	iun. 2014	94756146	iun. 2015	101920604
iul. 2013	92172882	iul. 2014	95267759	iul. 2015	101801472
aug. 2013	92635927	aug. 2014	95121916	aug. 2015	101600086
sept. 2013	92942513	sept. 2014	95176264	sept. 2015	101762946
oct. 2013	93729282	oct. 2014	95940881	oct. 2015	102339772
nov. 2013	94435352	nov. 2014	96690043	nov. 2015	103462939
dec. 2013	95307641	dec. 2014	100018008	dec. 2015	105795881
				ian. 2016	100890436
				feb. 2016	100583627
				mar. 2016	100794847

Source – National Bank of Romania

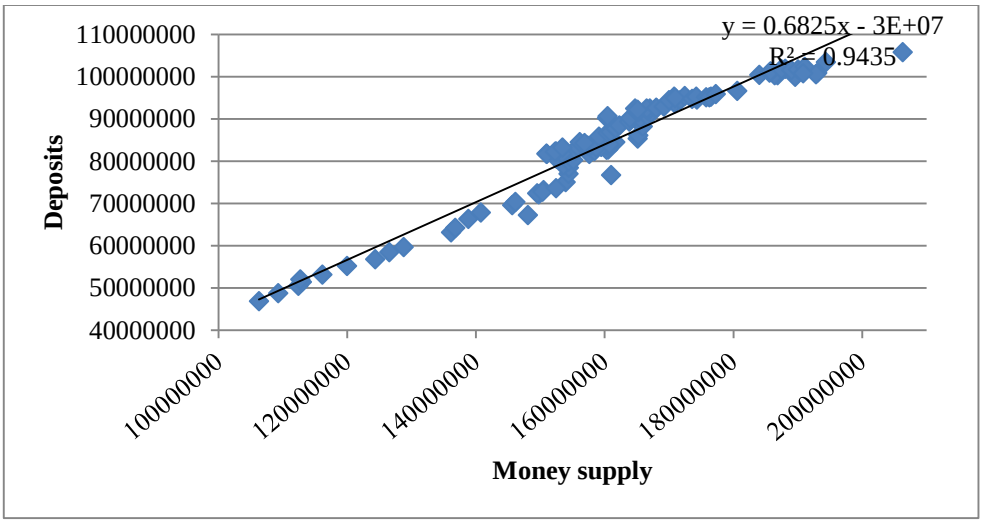

Figure 2. The link between Money supply and Deposits during 2007-2016

The regression analysis for the data from tables 1-6 gives:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.971352429
R Square	0.943525541
Adjusted R Square	0.943007427
Standard Error	3245925.501
Observations	111

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.91869E+16	1.91869E+16	1821.076048	7.42264E-70
Residual	109	1.14843E+15	1.0536E+13		
Total	110	2.03353E+16			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-25185390.62	2587655.492	-9.732899413	1.73959E-16	-30314039.68	-20056741.56
X Variable 1	0.682452313	0.015992202	42.67406763	7.42264E-70	0.650756288	0.714148337

DURBIN-WATSON STATISTIC:	0.224963761
ERROR AUTOCORRELATION COEFFICIENT:	0.886706404

Because Durbin-Watson statistic lies in the interval [0,1.67] we have a positive autocorrelation, that is we will remove it considering a new set of data: $D^{*}= D_n-\rho\cdot D_{n-1}$ and $MS^{*}= MS_n-\rho\cdot MS_{n-1}$ where D=Deposits, MS=Money supply, ρ=error autocorrelation coefficient.

New results after regression analysis are:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.869626595
R Square	0.756250415
Adjusted R Square	0.753993474
Standard Error	833692.9757
Observations	110

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.32894E+14	2.32894E+14	335.0776771	6.89599E-35
Residual	108	7.50647E+13	6.95044E+11		
Total	109	3.07958E+14			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3074940.969	388752.3161	7.909768872	2.38966E-12	2304366.436	3845515.501
X Variable 1	0.367804633	0.020092984	18.30512707	6.89599E-35	0.327976852	0.407632414

DURBIN-WATSON STATISTIC:	1.019033204
ERROR AUTOCORRELATION COEFFICIENT:	0.478287453

Because again Durbin-Watson statistic lies in the interval [0,1.66] we have a positive autocorrelation, that is we will remove it considering a new set of data: $D^{**}= D^{*}_{n}-\rho_1 \cdot D^{*}_{n-1}$ and $MS^{**}= MS^{*}_{n}-\rho_1 \cdot MS^{*}_{n-1}$, ρ=new error autocorrelation coefficient.

New results after regression analysis are:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.900242198
R Square	0.810436015
Adjusted R Square	0.808664389
Standard Error	693191.1431
Observations	109

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.19813E+14	2.19813E+14	457.4532098	1.95382E-40
Residual	107	5.1415E+13	4.80514E+11		
Total	108	2.71228E+14			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95.0%*	*Upper 95.0%*

Intercept	2095561.445	162665.4435	12.88264674	1.70711E-23	1773096.175	2418026.715
X Variable 1	0.320156073	0.014968849	21.38815583	1.95382E-40	0.290482076	0.34983007

DURBIN-WATSON STATISTIC:	2.129963129
ERROR AUTOCORRELATION COEFFICIENT:	-0.088010907

Because now Durbin-Watson statistic lies in the interval [1.7,2.3] we have that the date are uncorrelated.

Finally we have that the regression equation is:

$$D_n=(\rho+\rho_1)\cdot D_{n-1}-\rho\rho_1 D_{n-2}+ a_1 MS_n-a_1(\rho+\rho_1)MS_{n-1}+a_1\rho\rho_1 MS_{n-2}+b_1$$

that is:

$$\mathbf{D_n=1.3650\cdot D_{n-1}-0.4241\cdot D_{n-2}+0.3202\cdot MS_n-0.4370\cdot MS_{n-1}+0.1358\cdot MS_{n-2}+2095561}$$

From the value of R^2 we have that the model explains over 81.04% from the phenomenon.

After this equation we can see that the level of Deposits depends much on the amount of deposits from previous year.

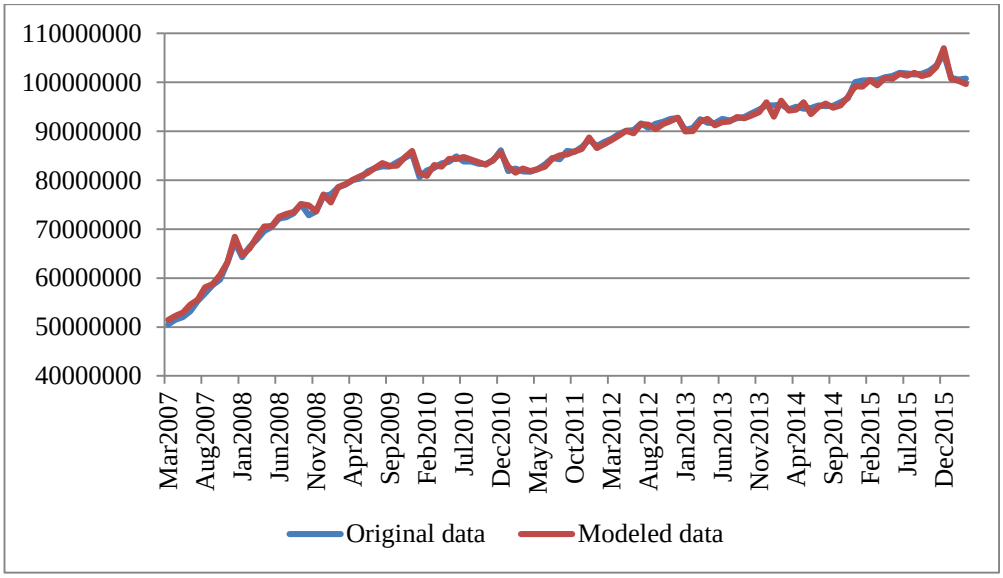

Figure 3. The evolution of Deposits during 2007-2016

Table 7. Household Loans during 2007-2009

Data	Loans - thousand lei 2007	Data	Loans - thousand lei 2007	Data	Loans - thousand lei 2007
ian. 2007	40240893	ian. 2008	68694381	ian. 2009	90392283
feb. 2007	41375402	feb. 2008	71035555	feb. 2009	90316681
mar. 2007	43251370	mar. 2008	73786250	mar. 2009	88857314
apr. 2007	44760660	apr. 2008	75725393	apr. 2009	87935360
mai. 2007	46841742	mai. 2008	77130295	mai. 2009	87692828
iun. 2007	48997569	iun. 2008	80527459	iun. 2009	87418100
iul. 2007	52544077	iul. 2008	81365520	iul. 2009	87300823
aug. 2007	57024372	aug. 2008	83900210	aug. 2009	87404411
sept. 2007	60478029	sept. 2008	88985444	sept. 2009	87302133
oct. 2007	63257880	oct. 2008	88723979	oct. 2009	88595286
nov. 2007	67816586	nov. 2008	89706112	nov. 2009	88306579
dec. 2007	71507708	dec. 2008	91910580	dec. 2009	87971975

Source – National Bank of Romania

Table 8. Household Loans during 2010-2012

Data	Loans - thousand lei 2007	Data	Loans - thousand lei 2007	Data	Loans - thousand lei 2007
ian. 2010	81508749	ian. 2011	78894151	ian. 2012	79068886
feb. 2010	80981588	feb. 2011	78098378	feb. 2012	78923523
mar. 2010	81393903	mar. 2011	76749099	mar. 2012	79191702
apr. 2010	82074354	apr. 2011	76657057	apr. 2012	79269685
mai. 2010	83125058	mai. 2011	78126778	mai. 2012	80152215

iun. 2010	86270938	iun. 2011	79784843	iun. 2012	79915288
iul. 2010	84461862	iul. 2011	80500966	iul. 2012	81358639
aug. 2010	85233467	aug. 2011	80282389	aug. 2012	80149729
sept. 2010	84897689	sept. 2011	81774627	sept. 2012	80565175
oct. 2010	83687650	oct. 2011	81515200	oct. 2012	80646917
nov. 2010	84193529	nov. 2011	81841381	nov. 2012	80339459
dec. 2010	84454044	dec. 2011	81620743	dec. 2012	79219742

Source – National Bank of Romania

Table 9. Household Loans during 2013-2016

Data	Loans - thousand lei 2007	Data	Loans - thousand lei 2007	Data	Loans - thousand lei 2007
ian. 2013	75814654	ian. 2014	74709059	ian. 2015	73983997
feb. 2013	75605056	feb. 2014	74596258	feb. 2015	73625808
mar. 2013	76149063	mar. 2014	74238654	mar. 2015	73808224
apr. 2013	74858104	apr. 2014	74256339	apr. 2015	73910043
mai. 2013	75599242	mai. 2014	73700951	mai. 2015	75317031
iun. 2013	76455532	iun. 2014	73450839	iun. 2015	75699642
iul. 2013	75903569	iul. 2014	73023291	iul. 2015	75118794
aug. 2013	75852568	aug. 2014	73182752	aug. 2015	75492558
sept. 2013	76234488	sept. 2014	73293294	sept. 2015	75525597
oct. 2013	75764111	oct. 2014	73452747	oct. 2015	75889229
nov. 2013	75890377	nov. 2014	73712041	nov. 2015	77576212
dec. 2013	75851300	dec. 2014	74001573	dec. 2015	77820817
				ian. 2016	73166803
				feb. 2016	72909710
				mar. 2016	73388043

Source – National Bank of Romania

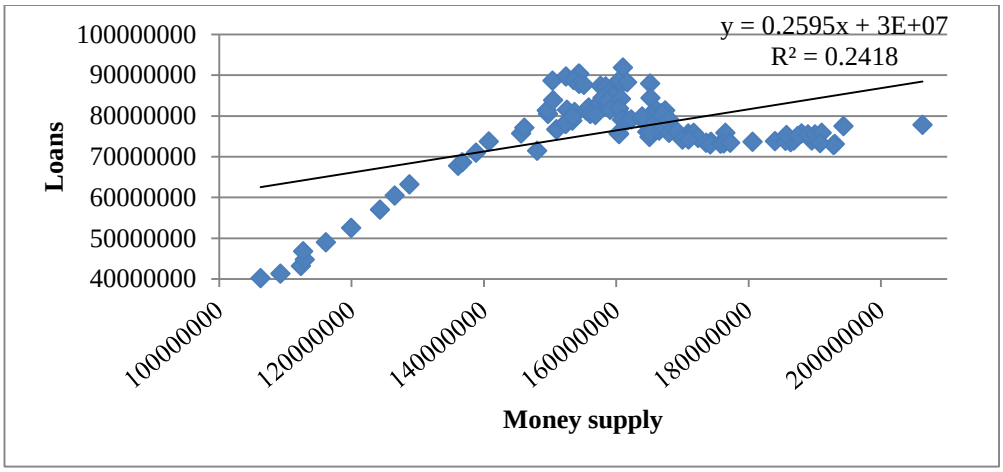

Figure 4. The link between Money supply and Loans during 2007-2016

The regression analysis for the data from tables 1-3, 7-9 gives:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.491719827
R Square	0.241788388
Adjusted R Square	0.234832319
Standard Error	8933033.339
Observations	111

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.77376E+15	2.77376E+15	34.75933886	4.24204E-08
Residual	109	8.6981E+15	7.97991E+13		
Total	110	1.14719E+16			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95.0%*	*Upper 95.0%*

Intercept	34933002.57	7121424.311	4.905339303	3.28171E-06	20818571.1	49047434.03
X Variable 1	0.259480323	0.044011754	5.895705119	4.24204E-08	0.172250457	0.346710188

DURBIN-WATSON STATISTIC:	0.019422658
ERROR AUTOCORRELATION COEFFICIENT:	0.990245774

Because Durbin-Watson statistic lies in the interval [0,1.67] we have a positive autocorrelation, that is we will remove it considering a new set of data: $L^{*}= L_n-\rho\cdot L_{n-1}$ and $MS^{*}= MS_n-\rho\cdot MS_{n-1}$ where L=Loans, MS=Money supply, ρ=error autocorrelation coefficient.

New results after regression analysis are:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.896975742
R Square	0.804565481
Adjusted R Square	0.802755902
Standard Error	589998.5323
Observations	110

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.5477E+14	1.5477E+14	444.6147609	4.4112E-40
Residual	108	3.75946E+13	3.48098E+11		
Total	109	1.92364E+14			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95.0%*	*Upper 95.0%*
Intercept	584001.8347	65997.14014	8.84889608	1.90621E-14	453184.0535	714819.6159
X Variable 1	0.311924485	0.014793043	21.08589009	4.4112E-40	0.282602107	0.341246863

DURBIN-WATSON STATISTIC:	1.891134169
ERROR AUTOCORRELATION COEFFICIENT:	0.046283021

Because now Durbin-Watson statistic lies in the interval [1.7, 2.3] we have that errors are not correlated.

Finally we have that the regression equation is:

$$L_n=0.9902 \cdot L_{n-1}+0.3119 \cdot MS_n -0.3089 \cdot MS_{n-1}+584002$$

From the value of R^2 we have that the model explains only 80.46% from the phenomenon.

After this equation we can see that the level of Loans depends much on the amount of loans from previous year.

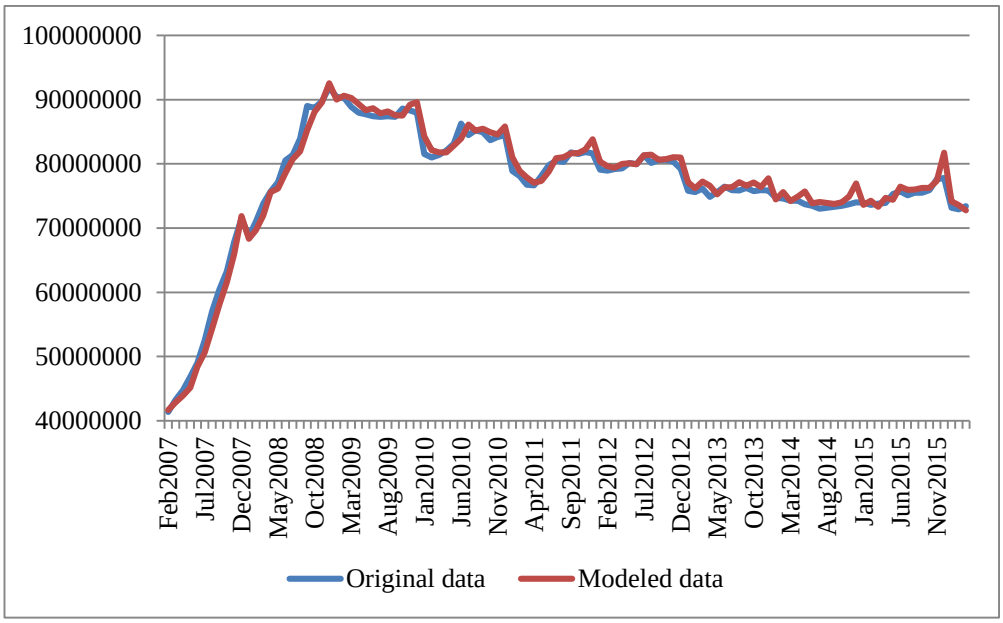

Figure 5. The evolution of Loans during 2007-2016

3. Conclusions

The above analysis establishes that in the case of Deposits the level of them depends much on the amount of deposits from previous year and also the level of Loans we obtained that it depends much on the amount of loans from previous year, but to a lesser extent than deposits.

4. References

Mishkin, S.F. (2000). *From Monetary Targeting To Inflation Targeting: Lessons from the Industrialized Countries*. Graduate School of Business, Columbia University And National Bureau of Economic Research.

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