

# The Influence of Strategic Alternatives on the Increasing Level Value of the Term Deposits

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**Abstract** *This article analyses the influence of the strategic alternative on the value level increase of the term deposits attracted from the Romanian's population households, during the period 2012 – Q1/2015, depending on the change of the standards related to deposits granting in RON, EURO and other currencies, but also depending on the aggregate volume of deposits demand at a national level. One-way ANOVA represents the ideal model to emphasize that the average of the term deposits attracted from the population's households during the last four years is influenced by the strategic alternative used by the credit institutions. The results of this analysis underlined the fact that there is a strong link between the strategic alternative adopted by the banks and the change of the value level of the term deposits intended for the population. The strategies to attract RON deposits proved to be more efficient compared to the strategies adopted by the banks for other currencies.*

**Key words** ANOVA, deposit, term deposits, period, bank lending standards

**JEL Codes:** M31, M37, G21

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## 1. Introduction

In Romania, the term deposits intended for the population have become, during the last years, less and less attractive. This fact is due to the policy carried by most of the domestic banks, which are practicing for over 4 years interest levels between 2 – 5%. In 2014, for term deposits in RON intended for the population's households, most of the banks were practicing interest levels between 2.75 – 3.40% or even below the 4% key-interest level of BNR. The first 5 banks in the system were using interest levels below 4% or below Robid<sup>1</sup> rate level at 3 months of 3.35%<sup>2</sup>.

In 2013, in Top 10 of the highest interest rates for term deposits intended for the population there were banks such as: Piraeus Bank (3.40%), TBI Bank (3.30%), Bank of Cyprus (3.20%), MKB Nextebank (3.15%)<sup>3</sup>, Libra Internet Bank (3.20%),

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<sup>1</sup> Robid – the rate at which the banks place liquidities between each other

<sup>2</sup> <http://www.capital.ro/187334.html>

<sup>3</sup> <http://www.moneycenter.ro/economii/depozite.html>

OTP Bank (2.90%), Credit Europe Bank (2.85%), Alpha Bank (2.80%), Banca Feroviara (2.80%) and Marfin Bank (2.75%).

In 2014, the best interests for bank term deposits for the population were offered by the following banks: Credit Europe Bank (4.75%), Alpha Bank (4.70%) Millennium Bank (4.50%), Volksbank (4.50%), Piraeus Bank (4.35%), OTP Bank (4.30%), Pro Credit Bank (4.20%) Banca Romaneasca (4.20%) and Garanti Bank (4.10%)<sup>4</sup>.

In Q1/2015, along with the interest decrease following the monetary policy<sup>5</sup> implemented by the National Bank of Romania, as well as the pressure on the reduction of the crediting costs, the banks are offering to the population households lower and lower interests for the attracted term deposits in RON, EURO and other currencies<sup>6</sup>.

The value level of the deposits attracted from the population households is influenced by numerous factors such as: the interest levels practiced by the competing banks, the level of the commissions applied for the withdrawal at maturity, the level of the monthly commissions applied for the deposits administration, the monetary policy promoted by BNR regarding the setting of a reduced level of the interest rate in order to stimulate the crediting activity, the inflation rate level, the easy access of the banks to various financing sources, the existence on the domestic or European market of numerous institutions offering quick and cheap financing sources<sup>7</sup> – for example: IMF, European Bank or other institutions acting on the inter-banking market etc.

### **1.1. Purposes and objectives**

With this paper, we aimed to identify whether the value level of the term deposits attracted during the period 2012-Q1/2015, in Ron, euro and other currencies, from the population households, is influenced by the strategic alternatives adopted by the credit institutions within the Romanian banking sector. This influence is analysed within the conditions of the impact of some particular factors of the current Romanian banking sector, such as: easing of the crediting standards, reduction of the interest rate of BNR monetary policy from 5% in April 2013 to 2% in April 2015, diminishing the interest rate for deposits from 2% in April 2013 to 0.25% in April

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<sup>4</sup> <http://www.moneycenter.ro/economii/cele-mai-bune-dobanzi-pentru-depozite-bancare-la-termen-a-500.html>

<sup>5</sup> Ionescu, L.(2001). Elemente de marketing bancar, Institutul Bancar Roman, București, p.67

<sup>6</sup> <http://www.conso.ro/depozite/bancile-taie-dobanzile-la-depozitele-in-lei-la-inceput-de-an>

<sup>7</sup> <http://www.capital.ro/187334.html>

2015<sup>8</sup>, keeping and applying withdrawal commissions at maturity or administration commission of the deposit accounts.

## 2. Literature review

For this study, One-way Anova model was used in order to test the equality between three groups of term deposits granted in Ron, Euro and other currencies to the population households during the period 2012- Q1/2015. This Anova model allows the testing of a connection between a dependent, metric variable (the value level of the deposits attracted in RON, EURO and other currencies) and an independent, quality variable (the strategic alternative used by the credit institutions within the Romanian banking sector).

ANOVA is a quantitative research method<sup>9</sup> that tests hypotheses that are made about differences between two or more means. If independent estimates of variance can be obtained from the data, ANOVA compares the means of different groups by analysing comparisons of variance estimates<sup>10</sup>.

In 1920, the British statistician Sir Ronald Aylmer Fisher proposes the use of ANOVA model to perform some analysis. He coined the phrase "analysis of variance," defined as "the separation of variance ascribable to one group of causes from the variance ascribable to the other groups".<sup>11</sup>

Fisher was very interested in genetics. ANOVA uses Fisher's F-distribution as part of the test of statistical significance. Some of his famous papers include "On the mathematical foundations of theoretical statistics", published in the Philosophical Transactions of the Royal Society in 1922, and "Applications of Student's distribution", and published in 1925.<sup>12</sup>

### 2.1. One – Way ANOVA Model

One- way ANOVA model is used to test the equality between three or more groups (using the F distribution)<sup>13</sup>. In the present case, the groups are formed by the value level of the deposits in Ron, euro and other currencies, granted during the last four years when differentiated strategies have been applied for each of them. <sup>14</sup>

In the realized study, the following variables were used:

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<sup>8</sup> <http://www.bnr.ro/Raport-statistic-606.aspx>

<sup>9</sup> Stan, R.F. (2014). *Statistica de la A la Z*, Ed. Universitara, Bucharest, p.45

<sup>10</sup> Op. cit. <http://clinfowiki.org/wiki/index.php/ANOVA>

<sup>11</sup> Landau S, Everitt BS. (2004). *A manual of Statistics Analysis Using SPSS*, Chapman & Hall/CRC

<sup>12</sup> Op.cit. <http://clinfowiki.org/wiki/index.php/ANOVA>

<sup>13</sup> Howell, D. (2002). *Statistical Methods for Psychology*, Duxbury, pp. 324–325

<sup>14</sup> Curteanu, S., L.(2004). *Excel prin exemple*, Ed. Polirom, Bucharest, p. 34

(A) - the value level of the term deposits attracted during the period 2012-Q1/2015, from the population households, in Ron, Euro and other currencies;

(B) - the term deposits attracting strategy of the credit institutions from the Romanian banking sector (taking into account that the strategies for the term deposits attracted in RON are different than the ones for the deposits attracted in euro or other currencies).

### 3. Methodology of research

This study aims to identify the influence exercised by the strategic alternatives adopted by the credit institutions on the value level change of the term deposits for the population (see Table 1).

*Table 1. Value of term deposits attracted during the period 2012-2015*

<i>Period</i>	<i>Time deposits</i>			<i>Total</i>
	<i>RON</i>	<i>EUR</i>	<i>Other currencies</i>	
				<i>RON million - end of period</i>
2012	61,225.0	33,112.3	4,797.6	99,134.9
2013	64,535.2	34,952.9	4,706.9	104,195.0
2014	66,411.3	35,404.7	4,882.0	106,698.0
T1/2015	67,264.3	34,828.9	5,374.2	107,467.4

**Source:** <http://www.bnr.ro/Raport-statistic-606.aspx>

The assumption that we test is the following<sup>15</sup>: the value level of the term deposits in Ron, euro and other currencies is influenced by the different strategic alternatives used by most of the banks within the Romanian banking sector. For this study we considered three types of deposits – in Ron, in Euro and in other currencies. Also, it is a known fact that the banks apply differentiated strategies to attract liquidities in Ron, euro and other currencies from the population and to convert them into term deposits. For the term deposits in Ron we extracted a sample containing the value of the term deposits attracted during the period 2012-Q1/2015.

The general assumptions for ANOVA become:

$$H0: \mu_1 = \mu_2 = \mu_3$$

*H1: at least two types of term deposits have different value averages.*

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<sup>15</sup> Constantin, C. (2006). *Sisteme informatice de marketing – Aplicatii in SPSS*, Ed. Infomarket, Brasov, p.45

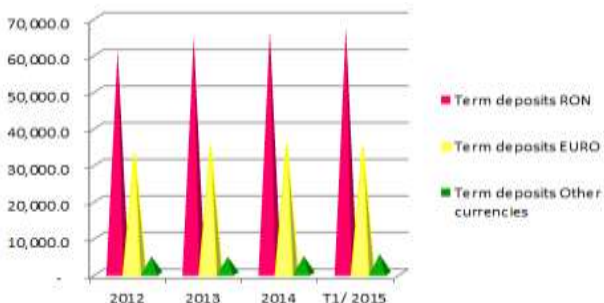


Figure 1. Value of term deposits granted during the period 2012-2015

The null assumption claims that there is no difference between the results of the different strategic alternatives adopted by the banks (either all strategies are very good and they attract the population to make term deposits regardless of the currency, or they are all very bad and they don't generate the increase of the deposits value) and the alternative assumption claims that at least one strategy offers better results than the two remaining strategies.

In Table 1, we can notice that, during the last four years, the first group (the one for which it was applied a strategy to attract term deposits in Ron) has an average value of 64858.9 mil. Ron with a standard deviation of 2677.4 mil. Ron, the second group (for which it was applied a strategy to attract term deposits in Euro) has an average of 34574.7 mil Ron with a standard deviation of 1005.8 mil. Ron, and the third group (with the strategy to attract term deposits in other currencies) have an average of 4940.1 mil Ron and the standard deviation of 298.05 mil. Ron.

Table 2. Indicators of descriptive statistics distributed by the three types of term deposits

<i>SUMMARY</i>				
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	4	259435.8	64858.95	7168635.27
Column 2	4	138298.8	34574.7	1011722.21
Column 3	4	19760.7	4940.175	88835.6292

The results of the analysis reflect the fact that the term deposits in Ron, during the last four years, generated an average value of 64858.95 mil Ron/year, the minimum obtained value was 61225.0 in 2012 and the maximum value can be obtained at the end of 2015 when it is estimated to reach 67264.3 mil. Ron. During the same period,

the average value of the deposits in Euro reached 34574.7 mil Ron and the deposits in other currencies barely reached the average threshold of 5000 mil Ron.

Table 3. Analysis table of ANOVA variants

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	7180800623	2	3.59E+09	1302.57	8.24E-12	4.256495
Within Groups	24807579.34	9	2756397.7			
Total	7205608203	11				

The value of 1302.57 (much higher than 1) indicates the fact that the null assumption can be rejected because the variation explained by the differences between groups is much higher than the variation caused by random errors. Also, it can easily be seen that there are major value differences between the three groups of deposits (in Ron, euro and other currencies) and differences between their averages.

By comparing  $F_{calc}$  value with critical value  $F$  from Fisher distribution law table, chosen for a significance level  $\alpha$  and  $df_1$  freedom degrees at numerator and  $df_2$  freedom degrees at denominator, we can observe that:

$$F_{calc} = 1302.57 > F_{0.05;2;9} = 4.2564, \text{ therefore it is accepted } H_1$$

according to which the value averages of the three types of deposits are different. Comparing the value of  $P$  with the chosen significance threshold ( $\alpha$ ) we notice that the value of  $P$  is smaller than  $\alpha = 5\%$  (a generic threshold, for a trust level of 95%), therefore we will reject the null assumption. We can thus state that at least one strategy to attract term deposits offers better results than the other two remaining strategies, because at least two types of term deposits have different value level averages.

Despite the low interests, the activity to attract term deposits from the population was a weak one. The value level of the term deposits in Ron, within the Romanian banking sector, increased with over 1.28 % in the first quarter of 2015 compared to 2014 and with 9.9% compared to 2012.

This evolution represents the effect of a more accelerated increase of the number of deposits granted to the population, with maturity  $>1$  year, whose value level reached 10489.0 mil Ron in Q1/2015 compared to 5960.9 mil Ron in 2012 (+75.96%/ last four years and +4% /year).

The term deposits with maturity >1 year in euro and other currencies have an almost constant evolution during the period 2012 – Q1/2015. Therefore, the value level of the term deposits in euro with maturity >1 year increased from 1959.6 mil Ron in 2012 to 2506.6 mil Ron in Q1/2015 (+27.91% /4 years and +0.01/year). During the same period, the value level of the term deposits with maturity >1 year, granted in other currencies, increased with 33.48% during the last four years and with 16.06% during the last year (see Figure 2).

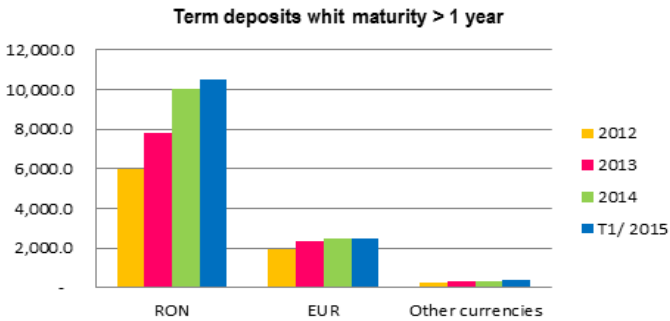


Figure 2. Volume value of term deposits - with maturity >1 year - granted in 2012-Q1/2015

Term deposits in RON with maturity >1 year increased, on one hand, due to the banks strategies to attract financing resources from the domestic market, and on the other hand, due to keeping the population's interest in the acquisition of savings products despite the lower interests.

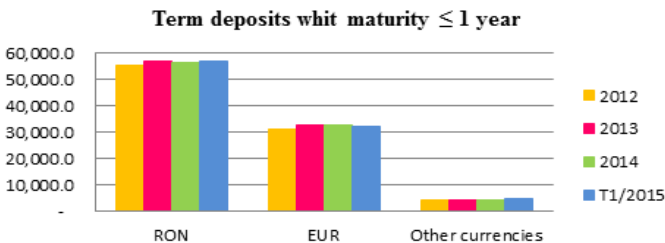


Figure 3. Volume value of term deposits - with maturity ≤ 1 year - granted in 2012-Q1/2015

During the period 2012- Q1/2015, we noticed a constant evolution with regard to the volume value of the term deposits with maturity  $\leq 1$  year. The balance of the deposits in RON increased with +2.73%, of the deposits in EURO increased with 3.76% and with 10.72% for the deposits in other currencies. This situation is due to the fact that the population keeps a relatively low appetite for short term savings (see Figure 3).

#### **4. Conclusions**

During the period 2012 - Q1/2015, along with the gradual reduction of the interest level, a slow increase of the value of the term deposits attracted from the population has been registered.

On the banking market we can notice a keeping of the population's tendency towards saving, materialized in a slight but constant increase of the term deposits in Ron, Euro and other currencies. During the last four years, the term deposits in Ron granted to the population increased with 9.9%, and the ones in Euro with 5.25%. The most spectacular evolution was registered by the term deposits in Ron granted with a maturity of over 1 year. These have reached a value level of 10.489.0 mil Ron in Q1/2015 compared to 5960.9 mil Ron in 2012 (+75.96%/ last 4 years and +4%/year).

The term deposits in Euro decreased with 1.63% in Q1/2015 compared to the same period of 2014.

This increase of the value level of the term deposits intended for the population are due to: the stimulation policy of BNR through a low level of the interests of both the crediting and the saving activities, the banks strategies to attract financing resources from the local markets and the maintaining of the population's interest for the acquisition of saving products despite the lower and lower interests.

The analysis results have showed that beyond the influence of the external factors, the strategic alternative represents an important component of the bank's general policy which contributes in a decisive manner to the change of the value level of the term deposits attracted from the population households.

In the future, BNR on the one hand, and the banks in Romania on the other hand, anticipate a tendency of slow increase of the volume of the term deposits intended for the population, especially the ones in Ron and Euro. The increase rates expected for the term deposits, for the end of year 2015, are going towards 5% per year and even more, and thus maintaining the annual increasing rhythm of approximately 7%, from the last years.



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