AN EMPIRICAL STUDY OF CORRELATION BETWEEN NET ASSETS AND OWN FUNDS IN THE ROMANIAN BANKING SYSTEM DURING 2001-2008

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ABSTRACT: *In this paper we explore the correlation between net assets and own funds in the Romanian banking system during 2001-2008. We based our approach on the Pearson correlation coefficient and we realized an empirical study, which demonstrates how the relevant elements of the capital ratio are connected. The study puts forward the concept that the banking capital adequacy is a subject of great significance to bankers, shareholders and depositors, and of course to bank supervision and central banks.*

Key words: Pearson correlation coeficient, Elements of capital ratio, Required banking capital

JEL codes: G21, E22, D63

Introduction

The role of banking capital is to act as a buffer against future, unidentified, even relatively remote losses that a bank may incur. A bank must hold enough capital to cushion both depositors and senior lenders against losses, while leaving the bank able to meet the needs of its customers. Banks must maintain capital commensurate with the amount of risks that they take and hold enough to weather financial storms, which can at times prove to be severe and of considerable duration. Banks with low equity capital and a high variability of operating earnings have proven highly vulnerable to financial distress. Banks which are strongly capitalized can take advantage of growth opportunities. A strong banking sector with a strong capital base is better able to supply credit to businesses and fund investment opportunities that promise to encourage growth, create employment and contribute to a stronger economy.

Based on these clues, the paper underlines the need of banking capital adequacy. An empirical study is included that demonstrates how the relevant elements of the capital ratio are connected. It attempts to establish the degree of relationship between net assets and own funds of the Romanian banks, in the context of the capital banking adequacy. We develop a research hypothesis Pearson's correlation coefficient and we study the situation of the Romanian banking system during 2001-2008. Also, our approach explores the mentioned correlation in the case of the main active banks from Romania.

Theoretical background

The capital adequacy issue is of interest to the national banking supervising authorities, the bank management and academics. Last few ten-days' period, this interest is driven by the Basel II capital requirements and the permanently need to improve return of banking equity. As a result,

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there is an extensive literature that seeks to explain the role of the banking capital in risk management process, according to which capital adequacy has a multiplicity of meanings and interpretations.

Even in 80's, some theoretical approaches presented the patterns of actives related to risks, and presented the methods in which the capital requirements must be taken into consideration by the shareholders and by the managers of banking societies in what concerns risk management. After 2000, it must be taken into consideration the emergence in specialized literature and in banking field of some complex studies which analyze the new Basel Agreement II and the consequences of its application in the case of different national states. Specialized studies of the last few years promote more and more elaborated econometrical patterns of banking risk administration and banking capital adequacy.

At national level, in Romania, the capital requirements of banking societies related to risks and all their aspects, in the context of Basel Agreement II, were approached starting from 2000 by the banking community and by the officials of BNR, preoccupied with the stage of preparing the Romanian banking system for the implementation of the new agreement. Also, specialized studies were elaborated in this domain by officials of academic field. In the beginning, in the period 2000-2005, these studies generally had an informative character related to the provisions of Basel Agreement II, because of the insufficient knowledge related to the theme in the national economic field and the wide spreading of the new agreement. Subsequently, in the period 2005-2008, in the field related to the theme we treated, in the national specialized literature there were conceived complex studies related to the banking risk administration field and capital adequacy. It is about certain measurement methodologies of banking risk, based on complex econometrical instruments in conformity with Basel Agreement II.

Undoubtedly, Basel II Agreement is the foundation point of research the capital adequacy in banks. In 1988, in the context of international banking field development, Basel Committee on Banking Supervision had decided to introduce a system of capital measurement known as the Basel Agreement I. The agreement imposed a minimal standard of capital for banks, according to which the basic capital of a bank must be maintained at a 8% level from banks exposure. The regulation, also known as Cook's Standard, was establishing a minimal report of 8%, calculated as a ratio between the funds owned and level-headed actives depending on risks. To different assets categories it was reserved certain risk level between 0 and 100%. The available banking capital was classified on two levels, as follows: Tier 1- representing the capital made of shareholders' deposits (savings), which contain paid-up share capital/common stock and disclosed reserves; Tier 2- representing undisclosed reserves, asset revaluation reserves, general provisions/general loan-loss reserves, hybrid (debt/equity) capital instruments and subordinated debt. The sum of tier 1 and tier 2 elements was eligible for inclusion in the capital base, subject to the some limits. Since 1988, this structure was progressively introduced in the member states of European Union and in many other countries, which had recognized the importance of banking capital regulation.

In 2005, the Basel Committee approved the Basel II Agreement as it is called The International Convergence of Capital Measurement and Capital Standards – a Revised Framework. It proposes a capital adequacy framework based on three complementary pillars: minimum capital requirements, a supervisory review process and market discipline.

The first pillar defines the minimum capital requirements for three broad categories of risks: credit risk, market risk and operational risk. The Basel II Agreement establishes the calculation of the total minimum capital requirements for credit, market and operational risk. The capital ratio is calculated using the definition of regulatory capital and risk-weighted assets. The total capital ratio must be no lower than 8%. Tier 2 capital is limited to 100% of Tier 1 capital.

According to the New Basel II Agreement the banking companies must accomplish specific capital requirements regarding the total credit, market and operational risk. The capital ratio is

calculated using the definition of regulatory capital and risk-weighted assets and must be no lower than 8%, according to the 40 article from the Basel II Agreement:

$$\text{Total Amount of Capital} / \text{Risk - Weighted Assets} \geq 8\% \quad (1)$$

The second pillar, the supervisory review process, relies on the following principles. Banks must have sufficient solvency in relation to its risk profile and supervisors must have the ability to require banks to hold capital in excess of the minimum. Banks should assess internally and on an ongoing basis their capital adequacy based on their present and future risk profile and supervisors should review the banks' internal capital adequacy assessment procedure. Finally, supervisors must intervene early, taking into account the relatively illiquid nature of most bank assets and the limited options most banks have in raising capital quickly. The third pillar, market discipline, enhances the role of market participants in encouraging banks to hold adequate levels of capital. In this respect, banks must disclose quantitative and qualitative information about their capital and risk profile.

The agreement is progressively implemented by the EU countries starting with the 1st of January 2007 (with specific impairments for the advanced methods of risk evaluation, starting with the 1st of January 2008)**.** The agreement itself is not compulsory neither for the countries members of the Basel Committee, neither for other states. In Europe, according to certain agreements called gentlemen agreements, the conditions imposed by the agreement are taken by European Directives that must be implemented into the national legislation of member states. It is the case of European Directive also known as Capital Adequacy Directive or European Capital Requirements Directive, published in the Official Journal of EU in the 30th of June 2006, is in fact the combination of other two directives: 2006/48/EC Directive for the foundation and the development of the activity of credit institutions (revised) and 2006/49/EC Directive for the adequacy of the investment societies' capital and credit societies' capital. Romania, as a member state of European Union, must apply the provisions of the Basel Agreement II.

The European Parliament adopted in May 2009 a legislative report which amends the Capital Requirements Directives to improve the transparency and the supervision of the financial system to ensure proper risk management in the banking sector. The new legislation seeks to improve risk management and avoid a repetition in future of the current banking crisis, with bank failures putting pressure on other banks and leaving the whole financial system at risk. The review of the Capital Requirements Directives represents one of the first legislative answers to the current financial crisis. In July 2009 Basel Committee on Banking Supervision approved a final package of measure to enhance the three pillars of the Basel II Framework. The package is part of the Basel Committee's broader programme to strengthen the regulatory capital framework. The programme aims to introduce new standards to

- promote the build-up of capital buffers that can be drawn down in periods of stress
- strengthen the quality of bank capital and
- introduce a leverage ratio as a backstop to Basel II.

Under this programme, the Committee is also taking measures to mitigate any excess cyclicality of the minimum capital requirement and to promote a more forward-looking approach to provisioning. It will issue a consultative proposal on this broader programme by the first quarter of 2010. Banks and supervisors are expected to begin implementing the Pillar 2 guidance immediately. The new Pillar 1 capital requirements and Pillar 3 disclosures should be implemented no later than 31 December 2010. The Committee also agreed to keep in place the Basel I capital floors beyond the end of 2009.

These new changes in the capital banking adequacy – amendments to the Capital Requirements Directive - were studied among other things, through the amount of capital that banks and other credit institutions are required to hold in respect of credit risk (Hawken and Bake, 2009).

Generally, the interest in research of the banking capital has been materialized even in the period preceding the New Basel II Agreement. For example, in 2004, Alfon, Argimon and Bascunana-Ambros presented the findings of a survey of UK banks and building societies undertaken to understand management's reasons behind their decisions about capital. The survey shows that: (a) firms use different approaches to form their views about "desired" capital; (b) the main factors explaining the level of a firm's desired capital are financing the firm's long-term business strategy and FSA's capital requirements; (c) actual capital usually exceeds firms' desired capital; (d) a change in a firm's individual capital requirements is likely to lead to a change in its desired capital in the medium term (Alfon et al., 2004).

Simpson and Evans find that it is very important to provide banking regulators with another tool to crosscheck the appropriateness and consistency of levels of capital adequacy for banks. They developed a model which provides benchmarks for economic and regulatory capital for international banking systems using country; regional and global stock-market generated price index returns data. The benchmarks can then be translated to crosschecking capital levels for banks within those systems. The paper merely proposes that such an approach is feasible and useful and it is in no way intended to be a replacement for the current Basel Accord (Simpson and Evans, 2005).

Several case studies emphasize that the quality of the banking assets influence the capital adequacy process. Every asset on a bank's financial statement carries some risk of default or loss. This is the raison for which in the capital ratio it is considered the risk-weighted assets.

The application of stochastic optimization theory to asset and capital adequacy management in banking are studied according to the new banking regulation that emphasizes risk minimization practices associated with assets and regulatory capital. It is analyzed the capital adequacy ratio (CAR), which we compute in a stochastic setting, by dividing regulatory bank capital (RBC) by risk weighted assets (RWAs). Furthermore, the authors demonstrate how the CAR can be optimized in terms of bank equity allocation and the rate at which additional debt and equity is raised (Mukuddem-Petersen and Petersen, 2008).

Tektas, Ozkan-Gunay and Gunay conclude that an efficient asset-liability management requires maximizing banks' profit as well as controlling and lowering various risks. The authors, based on this multi-objective decision problem, reached goals such as maximization of liquidity, revenue, capital adequacy, and market share subject to financial, legal requirements and institutional policies (Tektas et al., 2005).

Bandyopadhyay, Chherawala and Saha empirically calibrated the default and asset correlation for large companies in India and elaborate its implications for credit risk capital estimation for a bank (Bandyopadhyay, Chherawala and Saha, 2007).

Pitschke and Bone-Winkel studied the availability and the pricing of debt capital which will be risk-adjusted and which will depend on the amount of regulatory equity banks will have to hold in reserve for a credit engagement. The cost of debt capital in real estate financing will rise due to systemic reasons of the New Basel Capital Accord. Banks are/will be very restrictive with regard to credit allowances. The use of the positive leverage effect will become more difficult. Structured financing, particularly the use of private equity, is the best way to fill a potential financing gap (Pitschke and Bone-Winkel, 2006).

Ploegmakers, Schweitzer and Tourani Rad explored the possibility of employing a Risk-Adjusted Performance Measure (RAPM) based on the Value-at-Risk to allocate capital within a bank (Ploegmakers et al., 2000). Their paper puts forward the concept that an interface between risk management and performance measurement can be created that allows banks to use their risk management infrastructure in an offensive manner. They show that such a system is able to increase transparency, to improve efficiency of capital allocation, and overall performance of the institution.

Sample and Data. Empirical Findings and Interpretations.

This study uses a sample, in fact, the population of the active banks at the level of Romanian banking system during 2001-2008. The study is based on the real data, extracted from the annual reports published by the National Bank of Romania in the mentioned period and presented in the Annexes no. 1 and 2 of this paper.

We studied the correlation between net assets and own funds, based on the Pearson correlation coefficient.

$$p = \frac{n\left(\sum XY\right) - \left(\sum X\right)\left(\sum Y\right)}{\sqrt{\left[n\sum X^2 - \left(\sum X\right)^2\right]\left[n\sum Y^2 - \left(\sum Y\right)^2\right]}} \quad (2)$$

It indicates the extent of relationship by a number between 1.00 and -1.00. The correlation is computed from pairs of scores for each individual in the sample; each individual has a pair of scores, one on each of the two variables on which the correlation is being computed. A correlation of one indicates a perfect relationship such that if we know that the individual has the highest score on one variable, we also know she has the highest score on the other. With a negative correlation, they track one another inversely. A correlation of less than one, either positive or negative, indicates that each member of a pair of scores attracts the other less than perfectly so that the highest score on one variable in a positive correlation might be accompanied by a medium high score on the other variable. The fact that the relationship exists as shown by a correlation does not allow us to infer that the relationship is causal. Often the relationship is the result of a third variable or a combination of other variables. Regardless of whether a relationship is causal, a correlation allows prediction; thus such relationships are extremely useful. An extensive body of literature describes predictors of various kinds: to enhance learning conditions, to increase the effectiveness of teaching, to predict the stock market, to forecast college success. Unless the correlation is perfect, however, the predicted value is always less extreme - that is, closer to its mean - than the value from which it was predicted (Krathwohl, 1998).

We obtain in the case of the active banks from Romania, the following results for the Pearson correlation coefficient between net assets and own funds. In the Annex no. 3, we present the graphic representation of the correlation between X variable – Net Assets and Y variable – Own Funds.

Table no. 1

The Pearson correlation coefficient between Net Assets and Own Funds of the active banks from Romania

Year	*The Pearson correlation coefficient*
2001	0.982267
2002	0.976828
2003	0.980282
2004	0.981985
2005	0.857298
2006	0.960520
2007	0.940591
2008	0.978265

The values of the Pearson coefficient correlation very close to +1 show a direct and strong connection between variables. The result was not very surprising because these two analyzed

variables are the elements of the capital ratio under the Basel II Agreement, according to it the banks have to maintain an adequate level of the capital.

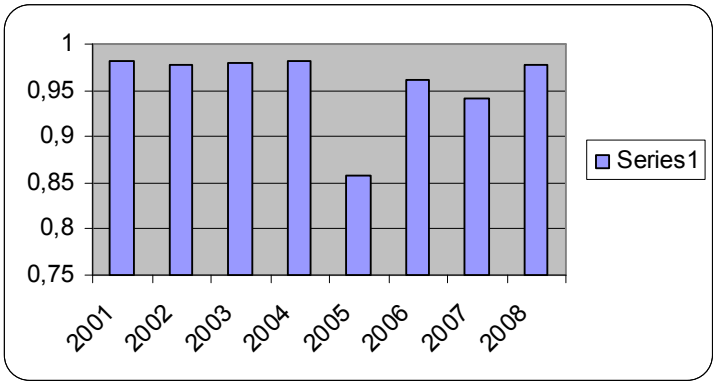

Fig. no. 1 – The values of the Pearson coefficient correlation at the level of Romanian banking system during 2001-2008

A different value of the Pearson correlation coefficient was obtained in 2005. Lower level of coefficient may be interpreted through a number of challenges had to be tackled in 2005, such as the adoption of inflation targeting, further liberalisation of capital account, implementation of domestic currency redenomination, commissioning of the Electronic Payment System, as well as the higher exchange rate flexibility. Another achievement of credit institutions was the transposition and implementation of EU requirements regarding the New Capital Accord. In 2005 too, two landmark projects in terms of prudential supervision were started. In order to ensure nationwide implementation of the new capital requirements in compliance with Basel II Accord, the National Bank of Romania initiated a project aimed at revising the legal and regulatory framework applicable to credit institutions. During 2005, the banking system saw substantial strengthening, buttressed chiefly by restructuring and privatisation. The main structural changes in the year under review were the following: - commencement of the third and final stage of privatisation of Banca Comercială Română, i.e. talks on selling the majority stake to a strategic investor. The successful bidder, the Austria-based Erste Bank, paid about EUR 3.75 billion for the acquired participation;

- approval of the privatisation strategy for the Savings Bank (CEC);
- licensing of the second bank specialised in housing loans (HVB Banca pentru Locuinţe);

At the end of 2005, bank assets equaled 44.8 percent share-to-GDP, compared with 36.6 percent share-to-GDP in 2004, amid system restructuring, diversification of the range of products offered by banks to their clients, and the increase in household purchasing power. The dynamics of financial, accounting and prudential indicators was influenced by the slowdown in lending, amid further below par values of indicators pertaining to doubtful and overdue loans, by the larger volume of tier 1 capital, by the maintenance of a high level of solvency, liquidity and of financial performance indicators (ROE and ROA).

We study the correlation between net assets and own funds for the main banks during 2001-2008. We choose the case of CEC Bank, BCR (Banca Comerciala Romana), BT (Banca Transilvania), BCC (Banca Comerciala Carpatica) and BRD (Banca Romana de Dezvoltare).

Table no. 2

The Pearson correlation coefficient between Net Assets and Own Funds during 2001-2008

The Bank	*The Pearson correlation coefficient*
CEC BANK	0.963418
BCR	0.924796
BT	0.997047
BCC	0.935558
BRD	0.996982

The values of the Pearson coefficient correlation very close to +1 show a direct and strong connection between variables.

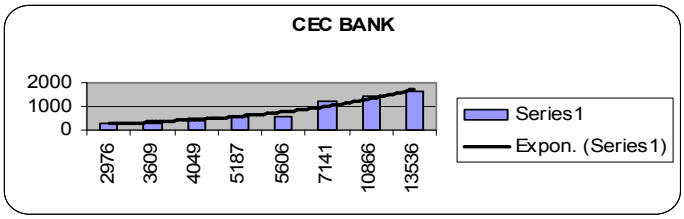

Fig. no. 2 – The values of the Pearson coefficient correlation at the level of CEC BANK during 2001-2008

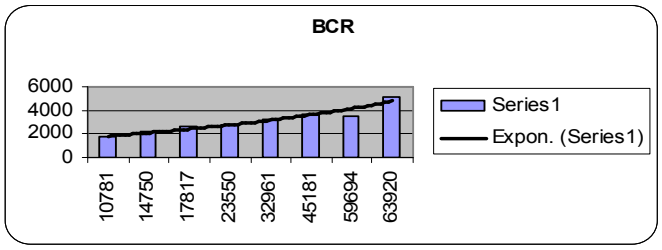

Fig. no. 3 – The values of the Pearson coefficient correlation at the level of BCR during 2001-2008

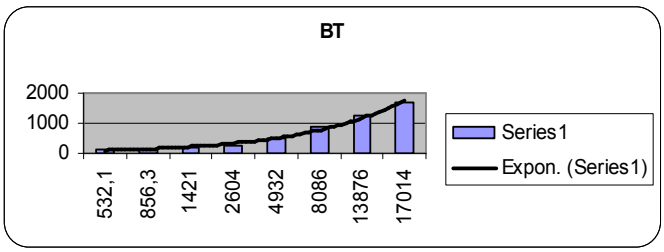

Fig. no. 4 – The values of the Pearson coefficient correlation at the level of BT during 2001-2008

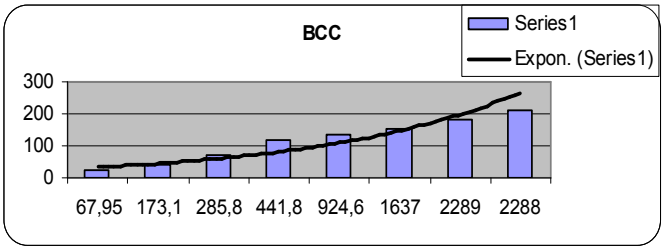

Fig. no. 5 – The values of the Pearson coefficient correlation at the level of BCC during 2001-2008

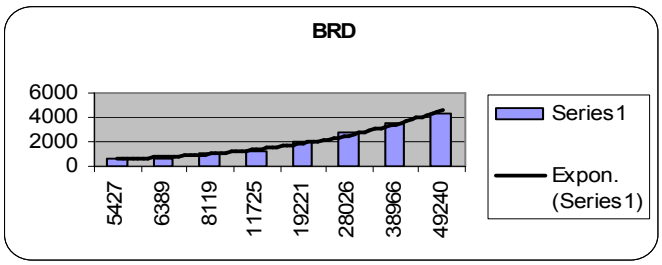

Fig. no. 6 – The values of the Pearson coefficient correlation at the level of BRD during 2001-2008

Conclusions

This study is based on a eight-year period during and on the two aproaches of the Pearson correlation between net assets and own funds of the banks. First way was to study the entire national banking system in terms of conection between elements of the capital ratio – assets and own fund. In this paper we studied net assets face to own fund of all the active banks from Romania. Second, we investigated for the same correlation, the situation of five important banks. The results show there exist direct and strong correlation between these two variables – net banking assets and own funds.

Our analysis suggests that the identified correlation can be explained by the role of the assets and own funds in banking capital allocation. The behaviour of the risk-weighted banking assets will be an interesting future research topic, because these kind of assets have an important implications for capital allocation and performance evaluation in banking societies.

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ANNEX no.1. Net Assets and Own Fund of the Active Banks from Romania during 2001-2004

Milliards lei

No.	The Name of the Bank	2001		2002		2003		2004	
		Net Assets	Own Funds	Net Assets	Own Funds	Net Assets	Own Funds	Net Assets	Own Funds
1	Casa de Economii şi Consemnaţiuni	29764,7	2820,2	36091,8	2983,56	40492,4	4789,7	51865,8	5888,1
2	Banca Comercială Română	107810,6	17130,8	147496,25	21491,71	178172,6	25822,6	235495,1	27504,9
3	Banca de Export-Import a României-Eximbank	6767	801,4	6218,123	1295,378	7888,7	1594,5	10075,4	1842,3
4	Banca Transilvania	5321,2	1098,8	8562,983	1471,779	14208	1786,4	26039,6	2615,6
5	Romexterra	1967,6	438,7	3263,011	772,298	4538,5	872,4	6893,1	1468,2
6	Mindbank	1160,8	440,4	1470,5	612,025	1830,8	620,7	2511,5	997,5
7	Banca Comercială Carpatica	679,5	232,9	1731,172	435,312	2858,2	695	4418,1	1180,1
8	Banca Română de Scont	543,3	200						
9	Banca de Investiţii şi Dezvoltare	454,5	211,2						
10	Banca Română pentru Dezvoltare	54271,3	5873,7	63890,9	6761,827	81187	10383,1	117254,3	13030,1
11	ABN Amro Bank România S.A.	18931,2	915,9	23918,096	1401,869	31046	1529,5	44791,5	2389,7
12	Banc Post	14211,2	2115,1	19368,33	2330,989	25406	2700,3	42604,1	4447,3
13	Banca Agricolă - Raiffeisen	11956,4	1396,5						
14	Banca Comercială Ion Ţiriac	10911,8	704	13359,868	1093,273	19478,2	2955,9	24493,5	3449,8
15	Citibank România S.A.	10749,9	1558,5	18886,796	2133,933	16222	2090,2	24182,8	2347,8
16	Alpha Bank (Banca Bucureşti)	9305	1241,9	14470,733	1883,88	21788,7	2341,3	28759,5	3613
17	HVB Bank Romania	8016,9	809,8	19242,306	1143,468	21100,4	1611,8	41652,4	2582,3
18	Banca Daewoo România	3509,5	787,7	1444,644	544,12	1400,6	545,8	1991,7	540,7
19	Banca Comercială Robank	3015	567,1	4028,413	790,536	5191,1	842,6	6972,3	1099,1
20	Raiffeisenbank (România)	3027,3	371,3	23922,9	2249,947	42158,3	2748,2	81766,8	7868,4
21	Banca Românească	2512,5	375,7	4602,05	642,665	6540	792,7	8801,2	1007,7
22	FINANSBANK (România) B.C.I.C.	2289,6	322,6	3310,811	392,816	4344,2	400,9	7898,7	843
23	Volksbank România	1883,9	191,7	4062,31	462,489	6097,4	488,7	10489,4	844
24	DEMIRBANK (România)	1787	568,4	3711,855	666,899	7140	1138,9	12605,9	2454,1
25	Piraeus Bank S.A.(Pater)	1653,4	515,1	3618,698	694,545	6916,2	835,7	9560,6	808,2
26	West Bank	1467,9	289,9						
27	Commercial Bank of Greece (România)	935,2	236,2	1575,393	367,394	2256,5	721,5	1843,6	662,1
28	Eurom Bank	666,5	410,3	1281,851	442,209	2550,5	442,5	4404,6	659,3
29	Libra Bank	579,4	199,9	728,677	250,952	869,2	299,5	1304,2	377,9
30	Egnatia Bank (România)	505,7	164,1	593,514	268,951	1134,4	332,8	2077,7	398,2

No.	The Name of the Bank	2001		2002		2003		2004	
		Net Assets	Own Funds	Net Assets	Own Funds	Net Assets	Own Funds	Net Assets	Own Funds
31	Romanian International Bank	414,2	160,1	673,43	274,759	872,7	322,3	1311,6	328,9
32	Banca Comercială Unirea	249,3	220,5	338,87	312,312	537,7	423,6	446,3	373,7
33	ING Bank N.V.	17506,4	685	20948,127	965,102	25926,8	1454,9	50365	2203,2
34	National Bank of Greece S.A.	1803,4	186,6	2442,768	236,918	5097,1	441,7	5926,3	505,3
35	United Garanti Bank International N.V.	1697,9	223,8	2607,869	746,148	3022,5	920,1	4214,8	965,4
36	Banca Italo-Romena Sp.A	1549,9	323,5	2879,164	500,481	5047,6	598,2	8268,5	719,7
37	Banque Franco-Roumaine	1456,1	244,1	2032,568	385,509	2635,3	510,7	536,9	515,3
38	Frankfurt Bukarest Bank AG	1405,1	230,1	1311,783	343,652	2366,1	455,2		
39	MISR Romanian Bank	1100,6	277,5	1494,941	391,446	1662,1	376,6	1776,6	398,5
40	Banca di Roma Sp.A	818,2	290,5	954,046	315,485	1087,3	398,4	1472,6	385,6
41	Banca Comercială "Columna" SA			322,925	0				
42	Banca de Microfinanţare MIRO S.A.			563,66	272,282	1079,3	369,9		
43	SanPaolo IMI Bank România					2429,9	260,7	4550,4	474,1
44	ProCredit Bank							2759,3	421,8
45	Raiffeisen Banca pentru Locuinţe							773,6	364,1
46	Anglo-Romanian Bank Ltd							4587,4	462

Source: Annual Reports, National Bank of Romania 2001-2004

ANNEX no.2. Net Assets and Own Fund of the Active Banks from Romania during 2005-2008

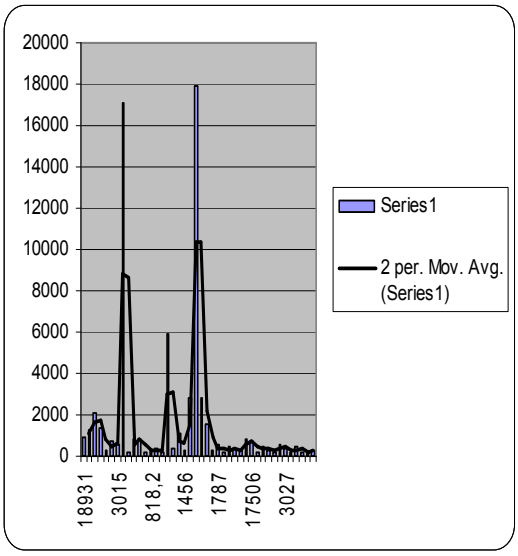
Milliards lei

No.	The Name of the Bank	2005		2006		2007		2008	
		Net Assets	Own Funds	Net Assets	Own Funds	Net Assets	Own Funds	Net Assets	Own Funds
1	Casa de Economii şi Consemnaţiuni (CEC Bank)	5606,4	581,4	7141,3	1222,2	10866,3	1413,4	13536,3	1664,2
2	Banca Comercială Română	32961,4	3201,9	45180,7	3707,7	59693,5	3569,2	63919,7	5169,4
3	Banca de Export-Import a României - Eximbank	2038	805,5	2351,6	898,8	2669,6	897,6	2916,3	924,8
4	Banca Transilvania	4932,1	511,5	8085,9	870	13876	1273,6	17014,3	1705,3
5	Romexterra Bank	1054,2	158	1220,3	175,7	1995,2	204	2922,4	181,2
6	Mindbank	292,8	105,9	346,2	108,3				
7	Banca Comercială Carpatica	924,6	132,6	1637,3	152,6	2288,8	180,2	2287,7	209,2
10	BRD-Groupe Société Générale	19221,3	2013,4	28026,2	2726,6	38965,8	3512,1	49239,6	4324,7
11	ABN Amro Bank	4848,5	381,4	5275,5	427,2	6640,7	554,8		
12	Bancpost	5712,4	776,6	7712,1	906,4	13251,5	1072,8	14989,3	1029,2
14	Banca Comercială Ion Ţiriac	3179	411,2						
15	Citibank România	2520	2259,5	2411,6	318,6	4145,1	395,9	4222,4	474,7
16	Alpha Bank	4884,8	911,6	7145,6	1033,1	12844,6	1079,4	17441,6	1309,1
17	HVB Bank Romania	6311,4	467,5	8817,4	1355				
18	HVB Banca pentru Locuinţe	39,1	31,1	43,4	29,7	51,9	27,8	53,4	25,7
19	Banca Daewoo	210,5	53,1						
20	Raiffeisen Bank	11042,4	1153,4	13738,9	1264,2	15674,1	1341,7	18879,9	1794
21	Finansbank	1282,2	135,1	2380,3	253,7				
22	Volksbank România	1870,2	392,4	4664,7	862,5	12677,8	1468,5	21359	1673,3
23	Piraeus Bank	1127,4	176,2	1925,8	249,3	5995,5	927,1	9265,9	972,9
24	Emporiki Bank - România S.A.	384	66,8	375,6	69,7	444	70,3	743,3	160,9
25	Eurom Bank	457	51						
26	Libra Bank	371,7	57,9	494,2	48,6	629,9	63,1	694	79,9
27	Egnatia Bank	381,6	53,1	766,1	107,6	1552,8	115,4		
28	Romanian International Bank	219,3	38,3	306,2	46,9	500	48,5	472,6	48,4
29	ING Bank N.V.	6783,6	188,9	7222,1	203,2	8141,6	93,5	10909,5	179,1
30	Banca Românească Grupul National Bank of Greece	2266,8	215,9	3562,1	687,1	6807,6	700,8	9164,1	1085,7
31	Garanti Bank International	523,7	191,5	543,9	187,7	806,5	171,1	1821	95,2
32	Banca Italo-Romena	1294,6	96,3	1302,1	226,3	2225,1	247,5	3329,7	455,3
33	Porsche Bank Romania	119,1	45,8	199,5	43,2	195,1	43,8	232,4	45,4

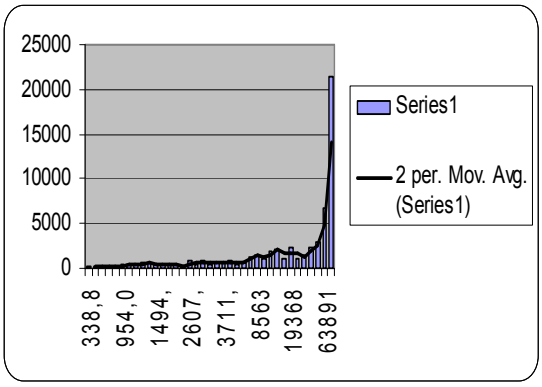
34	MISR Romanian Bank	186,6	60						
35	Banca di Roma SpA Italia	165,3	41,2	197,6	41,1	208,4	46,6		
36	SanPaolo IMI Bank România	738,7	131,8	1104,7	206	1782	212,1		
37	ProCredit Bank	480,4	45,3	746,5	78,2	1029,5	98,6	1187,2	131,5
38	Raiffeisen Banca pentru Locuinţe	144,6	28,2	251,3	48,1	276,7	30,8	276,3	28,4
39	Anglo-Romanian Bank	652,3	112	580,6	122,2	689,9	131	598,1	144,2
40	Nova Bank	29,1	26						
41	OTP Bank Romania	804,6	195,4	2642,2	359,8	3619,3	370,1	3450,2	380,4
42	UniCredit România	2027,9	302,5	2854,6	311,3	12865,4	1874,1	17373,7	2007,7
43	Banca C.R. Firenze România			255,4	52,9	424,9	76,8	490	60,2
44	Bank Leumi Romania			575,2	93	1087,1	215,4	1352,4	257,4
45	Blom Bank Egypt			212,4	95,9	290,2	137,7	316,5	148,7
46	ATE Bank					636,9	183,5	993,5	231,6
47	Bank of Cyprus					93,4	24,6	252,9	6
48	Credit Europe Bank					4465,7	416,3	6085,9	496,4
49	La CAIXA					89,8	3,2	321,7	-13,3
50	Millennium Bank					284	36,4	1188,9	64,1
51	FINICREDITO					0,7	0,7	11,3	10,9
52	RBS Bank							9145,6	603,1
53	MARFIN Bank							2345,3	165,9
54	Intesa Sanpaolo România							2774,8	512,9
55	Fortis Bank							102,2	11,8
56	DEPFA Bank							0,8	0,8
57	BCR Banca pentru Locuinţe							63,7	32,2

Source: Annual Reports, National Bank of Romania 2005-2008

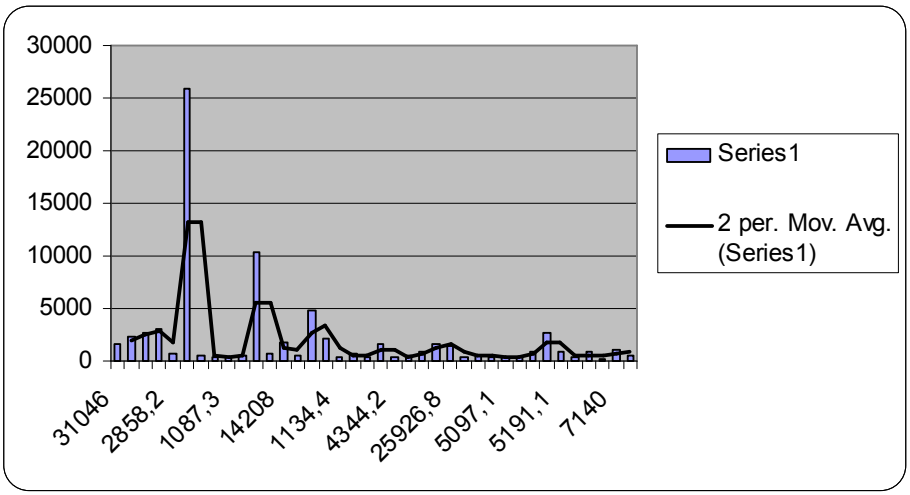
ANNEX no.2. Correlation between Net Assets and Own Fund of the Active Banks from Romania



Year 2001



Year 2002



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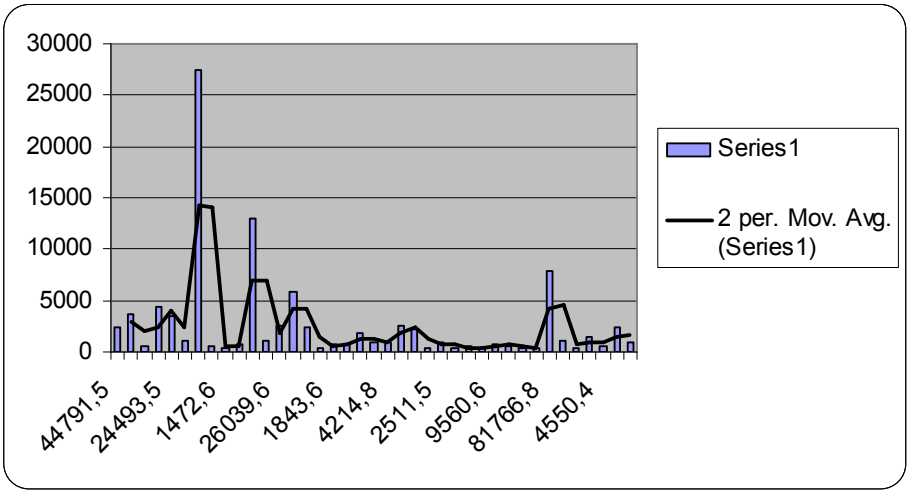
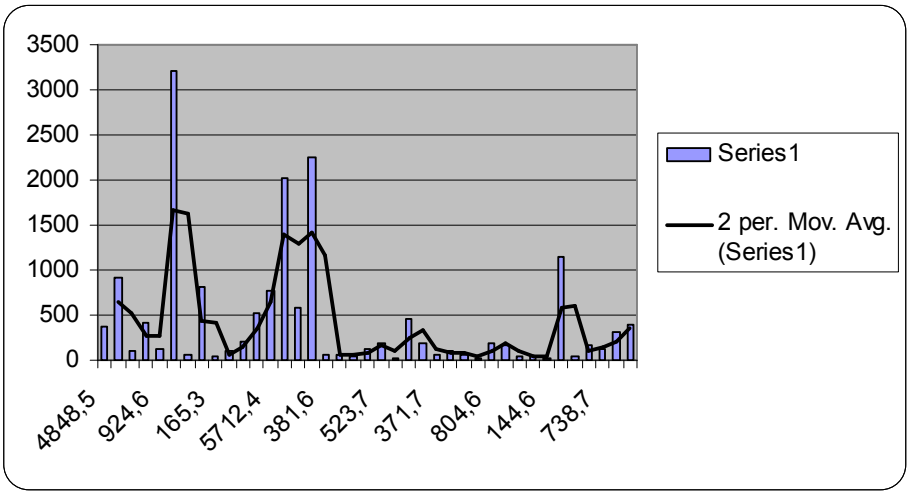
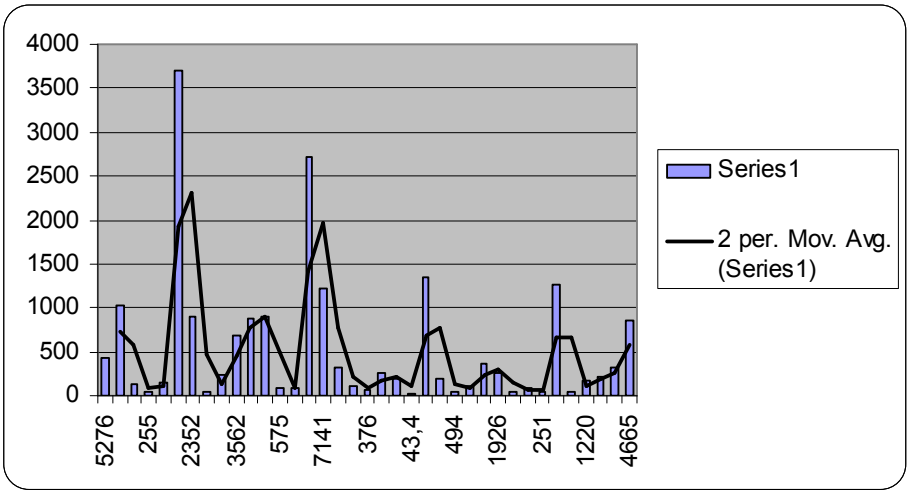


Year 2004



Year 2005



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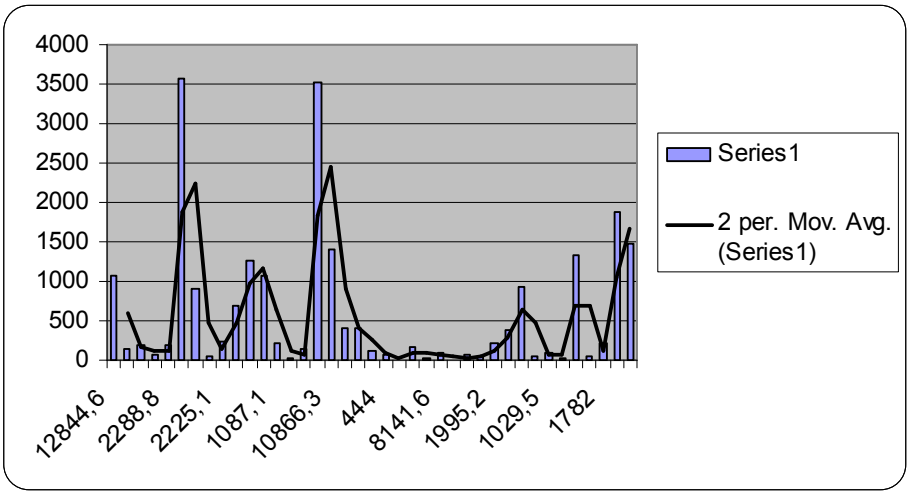
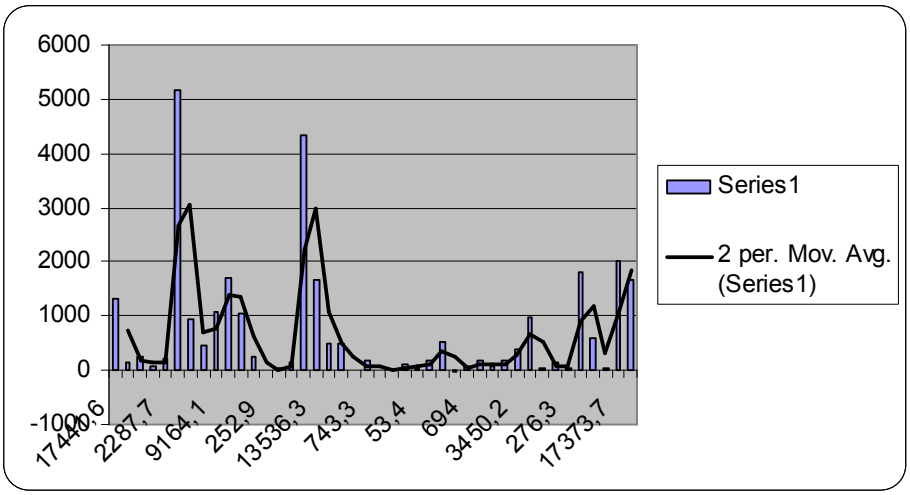


Year 2007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Series1
2 per. Mov. Avg. (Series1)

Year 2008