CURRENT COORDINATES REGARDING THE FINANCING MANAGEMENT OF AGRICULTURAL FIRMS LISTED IN THE BUCHAREST STOCK EXCHANGE

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Abstract

The main objective of this study is to analyse the evolution of the financing process of firms with farming and/or raising livestock activities. Secondly, the paper analyses the evolution of indebtedness and measures its impact on the performance of selected sample firms. The motivation underlying this research is connected with the fact that, on a theoretical level, as well as on an empirical one, there are several debates regarding firm financing management, but very few are centred on agricultural businesses. The most important conclusions deriving from our research are: the agricultural sector makes a modest contribution to the Romanian economy; the majority of firms in this sector depend on debt financing (which is not only rigid, but also costly); their economic performance is low (making this sector become unattractive for investors). The paper argues that debt financing is not stable, nor sustainable. This is because, although it offers a series of advantages, debt financing causes financial fragility, unlike investing the company's own capital. Furthermore, in a business environment where estimated income is uncertain, even though indebtedness level is fairly low, paying off debt can cause serious problems; any type of economy which is based on uncontrolled indebtedness will collapse eventually. Finally, we believe that firms should adopt a more prudent financing policy, able to sustain a moderate, but more stable and sustainable growth. However, we believe, for companies in the field of activity investigated, that some measure of support (by specific policies) are required, which would ensure revival of Romanian agriculture. Finally, the paper presents research limitations and new directions for further research.

Key words: financial structure, indebtedness, performance, financial vulnerability

The current Romanian financial and economic reality is a difficult one, marked not only by the prolonged world crisis, but also by other aspects which deal with the way the firm financing management was elaborated and implemented. The difficulties that firms in general, and agricultural firms in particular are currently facing, have led to major economic changes. These aspects affect the development and evolution of the local capital market as well.

The main objective of this research is the analysis of the way the financial structure of firms listed in the Romanian Stock Exchange has evolved, the selection criterion being firms' activities. The operational objectives are subordinated to the main target and refer to: presenting the theoretical approaches regarding firm financing, identifying the evolution of indebtedness of sample firms, measuring the impact of indebtedness on their economic performance and identifying financing alternatives.

The first studies of firm financing date back in the late '50s, when the idea of a neutral financial structure was launched. Between the '60s-'70s, research focused on the analysis of advantages and costs deriving from indebtedness; the aim was to study the way in which enterprises manage to balance the bankruptcy costs with the financial benefits derived from taking on debt; these works were grouped under the generic headline of "static trade-off theory", whose underlying claim is that firms set a target debt ratio which they attempt to reach. In the mid-1970s, research turned to agency costs, focusing on two categories of conflicts of interest: between managers and shareholders, on the one hand, and between creditors and shareholders, on the other. In the first half of the 1980s, the emphasis was mainly placed on information asymmetries among investors and firms, which defined the *pecking order theory*. In the latter half of the 1980s, financial theories explain the structure of firm financing in relation to the factors linked to industrial strategy and corporate organisation. Studies carried out during the 1990s were marked by the focus on the disjunctive-hypothetical reasoning, researchers seeking to provide arguments in favour of or against the two theories proposed, i.e. trade-off theory and pecking order theory, respectively. The idea proposed 10 years

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ago, arguing that "there is no universal theory of the debt-equity choice, and no reason to expect one" (Myers, 2001), reoriented research to the level of empirical analyses.

RESEARCH MATERIAL AND METHOD

In order to study the evolution of capital structure, i.e. the dynamics of indebtedness and its impact on firms' profitability, we considered a sample of 31 firms. The selection criterion was their CAEN code (the national statistical classification of economic activities in Romania); therefore, in ***Section A.*** *Agriculture, silviculture and fishing*, *Agriculture* ***Division*** are listed 31 firms, grouped in 4 categories and 6 profiles (rendered in table 1).

The financial information regarding the 31 firms were collected from the Ministry of Finance's portal, section *Economic agents and public institutions – identification data, financial information, financial statements* (http://www.mfinante.ro/pjuridice.html). The analysed period was of three years (2008-2010).

Tabel 1

Classification of Sample Firms

Section	Division	Category	No. of firms	Profile	No. of firms
A: Agriculture, silviculture, fishing	Agriculture	011 Cultivation of temporary plants	**8**	Grains (excluding rice), legumes, oil seed crops	**8**
		013 Plant breeding	**2**	-	**2**
		014 Livestock raising	**9**	Swine raising	**3**
				Poultry raising	**6**
		016 Agricultural auxiliary activities and activities after the harvest	**12**	Auxiliary activities for raising crops	**11**
				Seed preparation	**1**
No. of firms.	**31**	**-**	**31**	**-**	**31**

The indicators used in the evaluation of firms' financial structure and the impact of their indebtedness on economic performance are:

- financial structure (FS):

$FS = \frac{Ec}{Ec+Td} \cdot 100 + \frac{Td}{Ec+Td} \cdot 100$, where:

Td – total debts;

Ec – equity capital;

- degree of indebtedness:

$Di = \frac{Td}{Ec+Td} \cdot 100$;

- net profit (Np);
- return of equity capital:

$Rec = \frac{Np}{Ec} \cdot 100$.

RESULTS AND DISCUSSIONS

1. Judgements regarding the sample size in relation to the total number of companies listed in the Bucharest Stock Exchange

On May 31st 2012, the Bucharest Stock Exchange listed 1256 firms, out of which 106 were quoted on the BVB section, 1130 on RASDAQ and 20 on ATS. All the 31 sample firms are listed on the same section (RASDAQ), out of a total of 1130 firms; this means that only 2.57% of the companies quoted on this section have core activities based on raising crops and livestock. The present situation underlines that this sector of activity is poorly represented at the national economy level. Once a country famous for its agricultural sector, Romania has become incapable of exploiting its own agricultural resources.

2. Judgements regarding financial structure

Firms have access to two types of financial resources: equity capital and debt capital. In connection with their access to these two types of financing, we emphasize the following: an enterprise can finance itself 100% out of equity capital, but cannot survive being financed 100% out of debt capital. Financial structure is defined by the way the two resources are combined. Every enterprise has to be concerned with keeping its financial authority, in order to preserve its investors' trust (shareholders and creditors). Accessing different sources of financing depends on a series of factors, grouped as follows (Rajan & Zingales, 1995): a) *firm-specific determining factors*; b) *industry-specific determining factors*); c) *country-specific determining factors*. Although generally admitted that firm-specific factors have the highest influence on capital structure, there is a disagreement regarding the factors which significantly affect the capital structure of a given firm (Ilyas, 2008). However, we believe the determining factors affecting Romanian firms are: the physical size and value of a company, the degree of financial market development, the

legislative framework, the duration of production process, the importance of controlling shareholders, the economic sector in which they operate etc. (Tudose, 2006).

According to the selected financial information, all the 31 sample firms used debt capital during the three years mentioned above (the average level of indebtedness being 46% in 2008, 47% in 2009 and 46% in 2010).

Admitting that the maximum level of indebtedness represents twice as much as equity capital, we can assume that the maximum level of indebtedness of a firm is 66.6% (the difference of 33.3% being represented by equity capital).

According to their level of indebtedness, the sample firms are ranked as follows:

Tabel 2

Evolution of debt

Level of indebtedness	Firms					
	2008		2009		2010	
	nr.	%	nr.	%	nr.	%
0-10%	4	13	5	16	6	19
10%-20%	3	10	2	6	2	6
20%-30%	0	0	2	6	2	6
30-40%	5	16	1	3	3	10
40%-50%	2	6	2	6	4	13
50%-60%	4	13	6	19	2	6
60-66%	7	23	5	17	4	14
peste 66%	6	19	8	27	8	26
Total	31	100	31	100	31	100

The data reveal the fact that generally, during these three years, 18 out of 31 companies opted for a prudent debt policy (having a maximum debt level of 60%), while the remaining 13 attempted to reach or even surpass the maximum level of debt; the highest positions in the top of over-indebted firms are occupied by Agromec Iermata Neagra, Avicola S.A. Braşov, Comcereal S.A. Vaslui, G.K. Farmproiect S.A. Grivița and Pajisti S.A. Predeal; at the opposite pole, minimising their debt, we can find firms such as Agromec S.A. Grabat, Agromec S.A. Potlogi and Servagromec S.A. Cluj.

Due to the fact that one important factor which conditions a firm's access to credits is its dimension, we will further analyse this new coordinate using the *average number of employees* as a classifying criterion.

Tabel 3

Classification of firms according to their number of employees

No. of employees	Firms					
	2008		2009		2010	
	nr.	%	nr.	%	nr.	%
maximum 9	14	*45*	16	*52*	16	*52*
10 – 49	4	*13*	2	*6*	3	*10*
50 – 249	6	*19*	6	*19*	6	*19*
Over 250	7	*23*	7	*23*	6	*19*
Total	**31**	***100***	**31**	***100***	**31**	***100***

According to our research we can state that during the analysed period, half of the sample firms fall into the category of micro-enterprises; the other half is dominated by large companies (accounting for 23% in the years 2008-2009, and 19% in 2010); the latter are succeeded by medium enterprises (accounting for 19% in all three years) and small enterprises (accounting for 13% in 2008, 6% in 2009 and 10% in 2010). Among the companies that fall into the large companies category are Avicola S.A. Buzău (with an average of 740 employees), Nutricom S.A. Oltenița (with an average of 499 employees), Avicola S.A. Crevedia (with an average of 462 employees), Avicola S.A. Slobozia (with an average of 468 employees), Avicola S.A. Braşov (with an average of 485 employees), Comcereal S.A. Vaslui (with an average of 430 employees).

Tabel 4

Evolution of indebtedness level within firm categories

Category	Average debt ratio			
	2008	2009	2010	media
micro	42,47%	43,13%	35,75%	40,45%
small	27,87%	30,21%	26,91%	28,33%
medium	39,33%	46,73%	57,26%	47,77%
large	59,42%	61,34%	57,68%	59,48%

The information found in the table suggests that micro and small enterprises adopted a more prudent debt policy (registering an average level of indebtedness of 40.45% and 28.33% respectively), while medium and large-sized enterprises opted for a higher debt (47.77% and 59.48% respectively). With the exception of medium enterprises (which show a consistent increase in indebtedness during the analysed period), the other categories show a decrease in indebtedness towards the end of the analysed time-line.

3. Judgements regarding the impact of indebtedness over financial performance

Financing decisions have broad implications for the outcome policy and can even affect the very health of the company. The concept of performance is a controversial issue in finance due largely to its multidimensional meanings (Prahalathan & Ranjani, 2011). Performance measures are either financial or organizational (these measures are linked together). Classic indicators used in financial analysis to measure performance were return on investment, indebtedness, capital efficiency, liquidity, cash flow, inventory turnover, receivables turnover. Besides these, there are also the so-called modern indicators of value creation (Vernimmen, 2009), such as net income or earnings per share, the

operating result or gross operating surplus, return on asset (ROA) and return on equity (ROE), economic added value, cash flow return on investment, net present value, etc.

To achieve the third operational objective (to quantify the impact of debt on financial performance) we will use two modern indicators (accounting indicators): net profit and return on equity.

An overview of financial performance (as absolute values) of firms in the sample gives a not very pleasant image: in the first two years one third of firms reported losses, and in the third year the number of firms which reported losses rose almost to half; the situation is as follows:

Tabel 5

Classification of firms based on profit or loss

Category	No. of firms		
	2008	2009	2010
- with profit	21	20	16
- with losses	10	11	15
Total no. of firms	31	31	31

Performance analysis in terms of company size allowed us to obtain the following data:

Tabel 6

Classification of companies according to two criteria: company size and profit or loss

Categories	Firms with profit (+) / loss (–)					
	2008		2009		2010	
	+	–	+	–	+	–
Micro	8	*6*	8	*8*	6	*10*
Small	3	*1*	2	*0*	1	*2*
Medium	5	*1*	3	*3*	4	*2*
Large	6	*1*	7	*0*	5	*1*
Total/category	22	*9*	20	*11*	16	*15*
Total	**31**		**31**		**31**	

In the micro-enterprises category, throughout the period analysed, enterprises which reported losses prevail; in the other types of companies, firms which have made profits are predominant (the situation being more favourable as firms grow in size).

To assess performance in terms of return on equity we will only report to firms which made profits. Thus, the average return on equity is 19.33% in 2008, 12.37% in 2009 and 6.15% in 2010. The drop in performance of the analysed performance indicator can be attributed, primarily, to the specific social and economic context of the analysed period (marked by financial and economic crisis). The analysis in terms of company size allowed us to obtain the following information:

Tabel 7

The average return on equity according to categories of firms

Categories	The average return on equity			
	2008	2009	2010	3 ani
Micro	39,16%	24,19%	8,12%	23,82%
Small	16,06%	5,17%	0,46%	7,23%
Medium	2,22%	3,25%	0,99%	2,16%
Large	6,71%	4,85%	8,80%	6,79%
Average	**19,33**	**12,37**	**6,15**	**-**

With two exceptions, the average return on equity (analysed on categories of firms for each year of analysis) shows a downward trend. Looking at the period, it appears that micro-enterprises have an acceptable level of return on equity, while the other group of companies has low profitability levels (the lowest being recorded by medium enterprises - 2.16%).

The top ranking based on the level of return on equity is: Agromec Tractorul Cuza Vodă S.A. (in microenterprises); in 2008, Horticola S.A. Bucureşti and A.T.C. - Agro Total Construct S.A. Ghimbav in 2009 (in the small enterprises category); Suinprod S.A. Cernica (in the medium enterprises category); Avicola S.A. Braşov in 2008 and Nutricom S.A. Oltenița between 2009 and 2010 (in the large enterprises category).

4. Identifying financing alternatives

Since debt financing is neither stable nor sustainable through the crisis, over-indebted companies have become insolvent causing severe damage to the global economy. Thus, due to higher vulnerability and fragility, companies must be more concerned with their level of indebtedness. The idea that we want to emphasize is that the current economic system needs a more prudent funding to sustain a more stable and sustainable growth rate. Thus, previous coordinates that optimise the financial structure of firms (to ensure maximum value) must be redefined in favour of ensuring financial sustainability. The old challenge (the debt ratio in the overall firm-financing process) is abandoned, making way for a new challenge: financial fragility and vulnerability to crises. This is because a more conservative financing can support growth, it is true, more moderate, but stable and sustainable.

Furthermore, we believe that the financial indicator-based assessment of firm performance needs to be supplemented by an evaluation based on non-financial indicators that express the quality of management, corporate culture, the effectiveness of executive management remuneration policies, quality of communication with shareholders etc. Currently, there is a tendency for performance evaluation based on value creation, but subordinated to the goal of sustainable development.

CONCLUSIONS

Issues on how firms finance their operations, remain present and acute. This is because, in the context of changes that have marked social and economic life, we witness a depreciation of financial indicators, not only in agricultural companies, but also in the global economy. This background research on company financing has shifted towards studying the impact of debt financing on the financial vulnerability and fragility to crises.

Our research delivers the value dimension of the difficulties facing the agricultural enterprises in Romania (in particular those which are based on farming and raising livestock). Synthesizing the investigated aspects, the situation is characterized by:

- the agricultural sector has a modest contribution to the Romanian economy – out of the total of 1256 companies listed on the Bucharest Stock Exchange, only 31 are based on farming and animal husbandry (all being quoted in the RASDAQ section); considering the size of firms in terms of number of employees, we showed that half of the sample firms fall within the micro-enterprises category, the other half of the sample firms being dominated by large companies (with shares of 23% in 2008 and 2009 and 19% in 2010); the latter are succeeded by medium enterprises (with the same ratio of 19% in all years considered) and small enterprises (accounting for 13% in 2008, 6% in 2009 and 10% in 2010);
- firms in this sector are mostly dependent on debt financing (which is not only rigid, but also expensive) - the average debt is 46% in 2008, 47% in 2009 and 46% in 2010; analysing the indebtedness in connection with firm size, we showed that medium and large companies are most dependent on debt;
- the performance of these firms is low, making the sector seem unattractive to potential investors; this finding emerged from analysing two categories of indicators: net profit and return on equity.

In light of these considerations, we believe that a potential state support (not only through the existent subsidies, but also through direct investment) could revive the Romanian agriculture in order to reach at least the standards we met 20 years ago.

Assessments on the evolution of analized sector of activity was done by extrapolating the results of research on companies listed on Bucharest Stock Exchange (a limitation of the research). Our future core priority is the enlargement of the sample, by introducing in the research also the unlisted companies.

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Annex 1

Information regarding sample firms

Firms (RASDAQ section)	Total debts (in thousands of lei)			Equity capital (in thousands of lei)			Profit/Net loss (in thousands of lei)			Average no. of employees		
	2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010
A.T.C. - AGRO TOTAL CONSTRUCT S.A. GHIMBAV	1861	2266	2022	1635	1782	1749	30	168	8	23	23	21
ABO MIX S.A. ZALĂU	57456	56822	33255	45243	48039	48075	1349	2955	36	129	102	104
AGROMEC BUCOV	136	63	75	131	247	307	-13	117	59	8	8	8
AGROMEC IERMATA NEAGRĂ	357	507	663	241	188	90	52	50	3	4	5	5
AGROMEC LĂCENI	139	111	118	90	76	90	1	38	-11	1	1	1
AGROMEC S.A. CASTELU	187	207	283	127	148	170	-180	-220	-77	4	3	3
AGROMEC S.A. DIOSIG	43	14	19	403	431	347	30	28	-72	5	5	5
AGROMEC S.A. GRABAT	6	10	8	210	199	188	-4	-11	-11	3	3	2
AGROMEC S.A. GRUNI	3	29	34	1	66	57	-1	-11	-9	1	1	1
AGROMEC S.A. POTLOGI	6	3	1	198	163	159	-50	-36	-8	1	1	1
AGROMEC S.A. VOINEŞTI	52	68	71	72	55	23	-43	-16	-1	2	2	1
AGROMEC TRACTORUL CUZA VODĂ S.A.	376	141	343	728	882	1126	466	196	244	5	6	6
AGROPRODSTAR S.A. BUCUREŞTI	702	783	322	367	306	691	54	44	1	2	1	1
AVICOLA IAŞI S.A.	53082	58716	70947	29463	29463	29535	267	80	-18126	299	272	131
AVICOLA S.A. BRAŞOV	61936	69121	57657	24541	24828	24880	2773	316	570	475	486	494
AVICOLA S.A. BUCUREŞTI	28294	24532	5573	47112	52252	60095	273	1161	362	228	218	184
AVICOLA S.A. BUFTEA	10492	3814	3897	16834	15063	13199	-2420	-3842	-1810	147	82	26
AVICOLA S.A. BUZĂU	51410	46070	46364	58850	62246	60255	-3761	3467	-1998	827	697	694
AVICOLA S.A. CREVEDIA	64761	140612	137032	116273	116624	113451	116	441	221	490	490	405
AVICOLA S.A. SLOBOZIA	16237	12245	10524	15563	18336	20670	501	1676	2348	493	482	430
COMCEREAL S.A. BOTOŞANI	15680	14969	13590	5009	5057	5197	47	-49	139	164	167	168
COMCEREAL S.A. SLOBOZIA	1236	13474	1501	7063	6789	6650	4531	-29	-283	7	7	7
COMCEREAL S.A. VASLUI	155450	211119	238731	43612	41509	36932	7865	1092	5875	532	312	446
G.K. FARMPROIECT S.A. GRIVIŢA	1938	2091	1884	285	914	917	74	-462	12	10	9	8
HORTICOLA S.A. BUCUREŞTI	771	1105	1010	30054	23783	22441	13786	216	-1179	33	29	27
NUTRICOM S.A. OLTENIŢA	112852	138538	125886	51931	63873	74453	-3095	9365	10601	506	515	475
PAJIŞTI S.A. CIORANI	706	1087	820	408	702	888	-172	-104	-161	11	5	4
PAJIŞTI S.A. PREDEAL	18	2822	2778	28	243	254	32	52	11	1	1	1
SEMROM OLTENIA S.A. CRAIOVA	18531	17479	13375	446904	38298	2605	25	-9730	-11218	182	168	129
SERVAGROMEC S.A. CLUJ	57	47	39	414	473	386	2	24	-29	14	8	8
SUINPROD S.A. CERNICA	57392	87779	85890	37014	41420	41245	2447	572	253	116	104	81