COMPARATIVE STUDY ASSESSING THE CREDITWORTHINESS OF CUSTOMERS AT BCR ERSTE BANK, BRD-GSG AND THE PROPOSED MODEL OF CALCULATION

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Abstract:

The paper seeks to make an accurate comparison between the different ways of calculating the indicators that express the banking performance, needed to fit the credit applicant with an agricultural activity in the correct creditworthiness group.

In this paper we have selected from the banks in the banking system in Romania two banks considered to be the most representative, but also presented our own model for fitting the customers into a creditworthiness group, considering the agricultural specificity of activity.

Keywords: credit policies, system of indicators, financial capacity, customer creditworthiness, solvency, quantitative indicators, qualitative indicators

1. Introduction

For a better understanding of the importance of client credit analysis, starting from a case study, we point out that for the same firm we can obtain, by using different methodological models, its inclusion into different creditworthiness groups, which partly explains the acceptance or non-acceptance of a firm for crediting by a bank while another bank reaches the opposite conclusions.

2. Determination of financial performance indicators by BCR Erste Bank method, Raiffeisen Bank method and own model

To illustrate the calculation of creditworthiness indicators and how to rank them in risk classes (the risk class is another commonly used name for creditworthiness and creditworthiness analysis is traditionally assimilated to credit risk analysis), we chose a company which has as field of activity the cultivation of cereals and technical plants, the storage and ensilage of production, at the same time with the conditioning and restoration of the agricultural production, in particular the bringing to standard of the raw materials' superior valorization resulting from the agricultural production in the bakery industry and for the production of feed required in animal husbandry.

SC. Graminem SA is a company that grows wheat, corn, barley, barley and sunflower, and on smaller surfaces, oil and technical plants (in, rapeseed, castor). The total surface area and the structure of the cultivated areas vary from one year to the next, due to the imposition of exogenous factors and the conditions related to the economic conjuncture.

Regardless of the rules and procedures used in the assessment and selection of borrowers or the number and methodology for calculating the creditworthiness indicators, the indicators may be grouped into two distinct groups, namely *quantitative indicators*, in practice called financial or quantifiable indicators and *qualitative or non-quantifiable* indicators, which are obtained by evaluating the managerial team's performance and competency, the amount and quality of the guarantees, the firm's prestige on the operating market, its history, its relations with banking and financial institutions, etc.

The present study aims to determine the creditworthiness of Graminem SA through the analysis systems of the main players on the banking market, respectively BCR Erste Bank, Raiffeisen Bank and the company's own model.

4 Determination of the financial performance indicators according to BCR Erste Bank S.A. method

From the beginning, we note that when calculating creditworthiness indicators, the credit analyst must take into account the specificity of each economic agent's activity and, at the same time, observe the firm's ability to properly comply with the determinations of the interaction between its own production capacity and sales, on one hand, and with the general business market and climate in which it operates and the global economic conjuncture, on the other. We will see below that the company does not have a linear evolution in terms of the performances determined based on calculation of reliability indicators in the three years of history table, respectively 2013, 2014 and 2015. The explanation for the decrease in volume of activity in the agricultural year 2012- 2013 is due to the realistic forecasts regarding newly emerged circumstances, but also the weather forecasts for 2015, the resizing of the activity volume for this year being closely correlated with them, so we will consider from the start that the slight deterioration of some quantitative indicators for the year 2015 has its origins, in fact, in harmonizing the company's quantitative objectives with the overall economic climate, being a positive signal in terms of adapting the firm to market conditions. On the other hand, the company used the year 2015 to develop a coherent strategy aimed at medium and long-term development by elaborating feasibility studies to obtain the approvals needed to attract sources from EU programs for the acquisition of fixed assets that will result, on the one hand, in the increase of labor efficiency per unit area, and on the other hand in the growth of the added value through conditioning operations and standardizing the agricultural production in its own production capacities.

Financial (quantifiable) indicators used by BCR Erste Bank for SC. Graminem SA are presented in table no. 1.

Indicators	Dec. 2013	Dec. 2014	Dec. 2015
Current property liquidity	433%	538%	143%
Patrimonial solvency	115%	130%	126%
Overall indebtedness	668%	332%	381%
Return on equity	108%	107%	22%

 Table 1 Evolution of SC Graminem SA indicators according to the customer's creditworthiness model used by BCR Erste Bank S.A.

From the evolution of creditworthiness indicators calculated on the basis of methodological calculation rules for establishing the creditworthiness of BCR Erste Bank clients, we can highlight the following considerations:

 \checkmark Current property liquidity. As you can see, at least for the last year under historical observation, we find a significant share of stocks embodied in the work in progress - account balance 331 and other stocks constituted in account balance 345. Work in progress is represented at financial year end by all the work done until the date of reporting (field preparation, plowing, slicing and sowing and, in our case, the mechanical fertilization operations) to which the seed expenses and the soil amendments are added at this stage of production. Expenditure on uncompleted production/work in progress, duly recorded in the company's assets from the accounting perspective in the stocks/inventory category, does not represent ineligible stocks because, on the one hand, they are related to the existence of a single production cycle (production found at different material and

execution stages, and later on in different stages of production development), and, on the other hand, agricultural lands that have incorporated in them a certain quantity or volume of unfinished production can be capitalized at any moment at the market value of agricultural land (which can not change, according to the law, its original destination), plus the value incorporated in the land and highlighted in the balance of 331 account, which only increases its value in the event of a possible capitalization. In fact, liquidity is defined as the real capacity to convert the volume of current assets into cash or, in our case, the value of the unfinished production in the inventory category only increases the capacity to capitalize. The same observations apply to stocks found in the physical state by storing and conditioning wheat for bakery in own storage areas by silage, that amount of wheat going to be capitalize on in the spring of the following year at the foreseeable future moment of the growth of agricultural commodity prices. Even so, and especially given the seasonal nature of agricultural activity, at the end of the fiscal year, in all three reporting years, the current liquidity indicator stands at 433% and 538% for the years 2013 and 2014, and at the end of 2015, at 143%, which is an optimum value considering that for this indicator the creditworthiness value in any condition is 150%. We also make an observation that the credit analyst must take into account in any situation, an observation that exists in the methodological norms of all commercial banks, namely that for the correct assessment of a creditworthiness indicator its value should be compared to the value obtained for companies that have the same economic dimension in the branch. And, in this case, the values of liquidity indicators, with the explanations mentioned above, indicate a good financial situation;

✓ Patrimonial solvency shows an increase in its value for the first two years of history from 115% to 130%, followed by a slight decrease in its value to 126% for 2015, explained by the slight increase in current liabilities in relation to the assets situation due to the negotiation of supplier payment terms between 90 and 120 days at the end of the reporting period, which made the balance of suppliers account increase during this period. In interpreting the value of this indicator, the bank considers the reason for which the balance of supplier account represents the above-mentioned increase, abandoning the mechanical interpretation of the decrease of current debt coverage capacity because the liabilities existing in the balance at the end of 2015 did not exceed in any case the terms of chargeability. Whatever the case, the over 100% value of the patrimony solvency ratio fully reflects the real ability of the firm to turn all its assets into cash in the purely theoretical situation in which it should pay fully its debts;

 \checkmark Overall indebtedness indicator reflects in its current interpretation the result of the ratio between the total debts of a company (no distinction is made between current debts and overdue debts, the summaries of the report including all debts irrespective of their chargeability) and the total amount of equity the company has.

In theory, but also in practice, both the recommendations of the Central Bank and commercial banks assessments indicate an optimal value of this indicator of up to 100%. The explanation would be that, as the purpose of any business is to achieve a steady increase in the taxable amount, the main form of capitalization of a firm should be the annual collection of the net profit, together with the increase of social capital, in this case the main form being the infusion of capital. Secondarily, a clear delimitation is required between companies that have as strategic goal of further development and those that exclusively aim at meeting the immediate needs of shareholders / associates, in which case the profits obtained are mostly redistributed through the dividend policy. In our case, although the value of general indebtedness indicator calculated by BCR Erste Bank method has constant values above 100% (at the end of 2013 the indicator value was 381%), we reiterate the previously mentioned considerations regarding the specificity of agricultural activity, which makes impossible under normal circumstances the realization of receipts during winter period (a season during which, at the same time, are recorded expenditures according to which the volume of suppliers account increases, which consequently leads to the total debts growth). At the same time, we find that the volume of debt is represented by suppliers with payment deadlines that make them

ineligible during the reporting period and, anyway, the optimal value of the liquidity and solvency indicators is reassuring about the actual debt repayment capacity.

The indicator that measures strictly the company's profitability taken into account to asses the creditworthiness of a firm, by BCR Erste Bank's methodological norms, is *the return on equity* calculated as a percentage ratio between the gross profit of the financial year and the adjusted net capital value in the strict sense.

In our case, we can note values above 100% in the first two years, namely 108% for 2013 and 107% for 2014, with a decrease to 22% degree of return on equity corresponding to the resizing of activity in 2015. However, the value of the return on equity ratio is considered good for a firm that is at the end of a period of strategic readjustment and activity resizing.

Represented graphically, BCR Erste Bank's indicators are shown in Fig. 1.



Figure no. 1 Indicators of BCR Erste Bank model

Source: own projection

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Determination of the credit rating for the company in the period 2013-2015, by reporting it to the score obtained by analyzing the financial and non-financial criteria, is presented in table no. 2.

		CR		
Indicators	Gs	Dec. 2013	Dec. 2014	Dec. 2015
1. Turnover trend	0.1	3	3	4
2. Current property liquidity	0.06	1	1	1
3. Patrimonial solvency	0.07	3	1	2
4. Profitability expressed through return on equity	0.08	1	1	1
5. Overall indebtedness	0.06	5	5	5
6. Share of export in turnover	0.02	5	5	5
7. Source of reimbursement	0.1	2	2	2
8. Shareholders quality	0.08	1	1	1
9.Management	0.1	2	2	2
10. Eligibility conditions	0.09	3	3	3
11.Strategy	0.08	2	2	2
12. Market conditions in which the firm operates	0.09	3	3	3
13. The reality of accounting reports	0.03	1	1	1
14. Collaterals received	0.04	2	2	2
Total	1	2.34	2.2	2.37

Table no. 2	BCR Erste Bank rating	svstem
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To calculate the total score, will be determined a scoring function of the type:

$$CR = \sum_{i=1}^{14} (gs \times Cr_{1...5})$$

where:

gs = specific significance of each criterion (quantitative / qualitative);

 $C_{r1},...C_{r2}$ = number of rating criteria met

CR = credit rating.

For the example given, credit rating calculation is:

 $CR_{2013} = 0,1x3 + 0,06x1 + 0,07x3 + 0,08x1 + 0.06x5 + 0,02x5 + 0,1x2 + 0,08x1 + 0,09x3 + 0,08x2 + 0,09x3 + 0,09x3 + 0,03x1 + 0,04x2 = 2,34$

 $CR_{2014} = 0.1x3 + 0.06x1 + 0.07x1 + 0.08x1 + 0.06x5 + 0.02x5 + 0.1x2 + 0.08x1 + 0.09x3 + 0.08x2 + 0.09x3 + 0.09x3 + 0.03x1 + 0.04x2 = 2,2$

 $\mathbf{CR_{2015}} = 0.1x4 + 0.06x1 + 0.07x2 + 0.08x1 + 0.06x5 + 0.02x5 + 0.1x2 + 0.08x1 + 0.09x3 + 0.08x2 + 0.09x3 + 0.09x3 + 0.03x1 + 0.04x2 = \mathbf{2.37}$

The total score obtained depending on the values of creditworthiness indicators according to the framework matrix for the classification of creditworthiness indicators leads us to a cumulative score of 2.37 for the year 2015, which puts the company in **the performance category B** (in **observation**), according to table no. 3.

Credit Rating	Financial Performance	Type of credit
1,00 - 1,80	А	Standard
1,81 - 2,60	В	In observation
2,61 - 3,40	С	Under standard
3,41 - 4,20	D	Uncertain
4,21 - 5,00	Е	Loss

 Table no. 3 Structure of BCR Erste Bank credit rating

4 Determination of the financial performance indicators according to Raiffeisen Bank S.A method

Raiffeisen Bank S.A method of analysis is based on a system of evaluation of the company's performances that combines qualitative criteria with quantitative or financial criteria, the ranking in the creditworthiness groups being made after the accumulation of the scores obtained, according to the evaluation framework matrix.

In this case, there are also five creditworthiness groups, the difference from other credit risk assessment methods being that a total of seven indicators, of which two qualitative indicators and five quantitative indicators are proposed. Two quantitative indicators, the operating profit margin and the equity ratio are interpreted according to the specificity of firm's activity, as the business core activity is represented by trade or production.

The qualitative criteria relate to the quality of the company's management, the general business strategy as well as the guarantees received, and separately the shareholder structure is analyzed.

In conformity with the evaluation criteria regarding the quality of management, are targeted the issues related to the professional training of the significant shareholders or associates, along with the others regarding the competencies of administrators or technical and economic managers in the field of investment projects.

Awarding the score for the quality of the managerial team is made by studying in detail following the criteria described at large in the bank's rules, with detailed references to the diplomas

obtained by the shareholders, associates, administrators and project managers, the training courses attended, but also the relevant experiences in the fields of activity in which they are going to lead. In the evaluation of management quality are also analyzed the experience in business management and the results obtained by the companies they have previously led, supported by concrete data regarding the profitability of these companies and their long-term achievements.

The quality of guarantees is mainly based on their rapid market capitalization, their amount and the extent to which they cover the company's highest debt to the creditor bank, which is considered to be the optimal at 120%, compared to the maximum amount of the approved loan, plus the cumulative interest rate up to the first credit rate. An important point in the analysis of the guarantees is the availability of the company's managers to bring in goods found in their personal property as guarantees, which is generally considered as a sign of their trust in the project proposed for crediting.

Another qualitative aspect analyzed, aimed at the quality of company's management, is represented by the shareholder structure, higher scores being given to the companies that do not exhibit large fluctuations of the shareholders over time, as well as to those who attract shareholders that bring to the firm increases of the social capital. The shareholder structure can also be interpreted by analyzing the ratio between actuarial and legal entities, always the interpretation being made according to the specificity of each firm.

The quantitative criteria are based on five financial indicators, the assignment to the creditworthiness groups and the awarding of the scores for each indicator, being made considering the value obtained from the calculation of each indicator in the frame matrix.

The quantitative indicators used for creditworthiness analysis refer to general liquidity, solvency, interest rate coverage, operating profit margin and equity ratio, according to table no. 4.

	Table no. 4 Quantitative indicators						
Nr. crt	Indicators	Gs	2013	2014	2015		
1.	General liquidity = Current Assets/Debts	0,14	4,33	5,38	1,43		
2.	Solvency = Total Assets/Debts	0,14	1,15	1,30	1,26		
3.	Interest rate coverage = Operating profit/Interest rate						
	expenses	0,14	112,32	30,77	3,23		
4.	Operating profit margin = Operating profit/Sales x 100	0,1	17,44%	32,19%	23,87%		
5.	Equity rate = Equity /Total Assets x 100	0,08	13,02%	23,14%	20,77%		

Table no. 4 Quantitative Indicators

Represented graphically, Raiffeisen's indicators are shown in Figure no. 2.



Figure no. 2 Indicators of Raiffeisen Bank S.A model Source: own projection based on calculated dat

Annals of the "Constantin Brâncuși" University of Târgu Jiu, Economy Series, Issue 4/2017 Table no. 5 Raiffeisen Bank S.A rating system

I. Qualitative Criteria	Gs	dec. 2013	dec. 2014	dec. 2015
1. Quality of management, business strategy and guarantees received (other than those that are accepted to reduce exposure to the debtor)	0,25	2	2	2
2. Shareholder structure	0,15	1	1	1
II. Quantitative Criteria				
1. General liquidity = Current Assets / Debts	0,14	1	1	2
2. Solvency = Total Assets / Debts	0,14	3	2	2
3. Interest rate coverage = Operating profit / Interest rate expenses	0,14	1	1	2
4. Operating profit margin = Operating profit / Sales x 100	0,10	1	1	1
5. Equity rate = Equity / Total Assets x 100	0,08	3	2	2
Weighted customer risk	1,00	1,69	1,47	1,75

For the example given, credit rating calculation is:

 $CR_{2013} = 0.25x2 + 0.15x1 + 0.14x1 + 0.14x3 + 0.14x1 + 0.10x1 + 0.08x3 = 1,69$ $CR_{2014} = 0.25x2 + 0.15x1 + 0.14x1 + 0.14x2 + 0.14x1 + 0.10x1 + 0.08x2 = 1,47$ $CR_{2015} = 0.25x2 + 0.15x1 + 0.14x2 + 0.14x2 + 0.14x2 + 0.10x1 + 0.08x2 = 1,75$

By aggregating the points obtained from the calculation of creditworthiness indicators by using Raiffeisen Bank's analysis method, the firm obtains the classification in the A credit rating group, therefore the same company, using another analysis method based on the same data, can be grouped into different creditworthiness groups, according to table no. 6.

Table no. 6 Structure of Raiffeisen Bank S.A credit rating

The weighted result of the customer's rating	Customer rating (financial performance)	Type of credit
1,00 - 2,00	Α	Standard
2,01 - 3,00	В	In observation
3,01 – 4,00	С	Under standard
4,01 - 4,50	D	Uncertain
4,51 - 5,00	Е	Loss

4 Model proposed for the evaluation of quantitative and qualitative indicators by the credit applicant/borrower SC Graminem SA

This analysis model proposed for evaluation of the creditworthiness of a credit applicant seeks to correct in some cases the value of some indicators calculated according to preset formulas by taking into account the quality of the items that form the balance sheet. As for the quantitative indicators, the first indicator proposed for analysis is the current liquidity, which is calculated, according to the formulas, as a percentage ratio between current assets and current debts, but proposing at the same time a resizing of the volume of current assets retained in the calculus of indicator's volume by the corresponding diminishment of the non-valuable stocks (Sn) value, but also that of uncertain or disputed claims (CRi,I).

By convention, we shall consider non- valuable stocks those stocks, whatever their nature, which have time intervals from the date of entry into administration greater than the value of a production cycle, i.e. perishable stocks or made from materials that are out of use or qualitatively depreciated. Similarly, we shall consider as being in the category of uncertain or disputed claims those receivables whose record date in the company's accounting records exceeded the due dates

provided in the commercial contracts concluded with the commercial clients or have a duration longer than 30 days in the case of claims arising from commercial transactions for which there are no written contracts or agreements. There are also considered disputed claims those that are subject of court proceedings or for which there are court decisions, claims to be recovered at the creditors' table or in course of execution through other legal proceedings. At the denominator of the relation, the value of the turnover is represented by the current period turnover.

Table no. 7 Evolution of SC Graminem SA indicators according to its own customer creditworthiness model

1	Fixed Assets	231.215	701.016	610.870
2	Equity	107.512	335.000	406.817
3	Current Assets	594.799	746.681	1.342.536
4	Stocks	248.616	258.466	877.945
5	Expenses in advance	0	0	5.172
6	Current Assets (3+5)	594.799	746.681	1.347.708
7	Total Assets (1+6)	826.014	1.447.697	1.958.578
8	Debts < 1 year	137.443	138.875	940.792
9	Income in advance	0	0	0
10	Current Debts (8+9)	137.443	138.875	940.792
11	Debts > 1 year	581.059	973.882	610.969
12	Provisions	0	0	0
13	Total Debts (10+11+12)	718.582	1.112.757	1.551.761
14	Turnover	828.465	1.393.414	960.774
15	The gross result of financial exercise	116.103	359.021	88.782
16	Total Income	1.080.617	1.408.104	1.537.614
17	Total Expenses	964.514	1.049.083	1.448.832
18	Net Income	97.527	302.392	71.818
19	Claims	139.428	115.849	361.526
20	Profitability based on turnover (15:14)	14%	26%	9%
21	Immediate liquidity (6-4):10	252%	352%	50%
22	Patrimonial solvency (2:7)	13%	23%	<u>69</u> %
23	Indebtness level (13:7)	87%	77%	79 %
24	Revenue coverage ratio (16:17)	112%	134%	106%

The "effective debt recovery capacity" indicator, proposed for the creditworthiness analysis, comes in connection with its own model for the calculation of "current liquidity" indicator and clearly shows the quality of receivables as part of the current asset balance sheet, the data on the quality of receivables being directly connected with the real ability to immediately capitalize on current assets, while providing real evidence of managerial ability materialized in science or skills in the matter of the conclusion of commercial contracts.

The indicator "general indebtedness" is proposed to be calculated by reporting total debts (pointing out that it is total debts and not current liabilities) to the company's equity at the end of the financial year. This indicator aims to assess objectively the firm's ability to justify the contracted debts (either commercial or bank) as well as tax debts by increasing the volume of its own capital, especially on the basis of net annual profits. The formula for calculating the indicator, as in the case of other indicators, should not be applied mechanically by taking over the amounts from the balance sheet, and the denominator of the relation should be corrected with the amount recorded against the balance of account 105 "Reserves from assets revaluation", when is discovered the applicant's intention to mystify financial reporting by the unjustified increase in value of equity.

The stocks' rotational speed is an indicator calculated as a percentage ratio between the stock of previous period plus the stocks of the base period and the double-digit turnover for the

current period. For a realistic analysis of the value of this indicator, the value of stocks' rotational speed is always compared with the duration of a production cycle. In other words, the indicator can be calculated in two ways: without the value of unfinished production (debit balance 331) and the value of work in progress (debtor balance 345), especially for other material stocks than the ones mentioned and/or the cumulated value of the balance sheet item.

In the proposed model, we calculate the debt recovery duration and payout duration, indicators that can be analyzed both separately in dynamics and by comparing them in order to determine the firm's ability to form surplus liquidity by attracting sources. The indicators are calculated by reporting, in the first case the amount of claims from the previous period and the base period ones, and in the second case the previous period debts and the current period ones to the double of current period turnover. Interpretation of indicators results in observing the gap between the number of days required to calculate the receivables and the one for the payment of current debts, meaning that if the value of the first indicator is lower than the second indicator, there is a prerequisite for increasing the surplus liquidity and consequently meeting the need for working capital by increasing the volume of attracted sources. Obviously, as the name of the indicator sufficiently highlights it, we have only current debts, i.e. debts whose due date does not exceed the contracted deadlines and maturities for payment of debts. The opposite situation is characteristic of firms that pay faster than collect receivables, the specificity of such a commercial activity leading in all cases and irreversibly to the inability to pay. The interpretation of these two indicators is directly correlated with the assessment of the managerial capacity available to the firm.

The qualitative indicators proposed for analysis are explicitly outlined in the grid, emphasizing unambiguously that the scoring should be made taking into account the result of comparisons with firms of the same economic size in that branch. However, in the case of the management team quality indicator proposed in the evaluation model, it is necessary to obtain the mark for both representative and significant shareholders (usually those with a significant percentage of shares, over 20%), and associates, but also directors even if they are not owner of shares and the persons with operational - technical responsibilities in carrying out the investment project or the current activity. Team quality assessment should also be made in terms of managerial experience in other types of business when it is required.

Indicators	Qualifier	Score	Weighting
			Coefficient
	- under 100%	0	
1. Current Liquidity	- between 100-120%	1	
	- between 120-150%	2	2
	- over 150%	3	
	- under 10%	0	
2. Patrimonial Solvency	- between 10-20%	1	
	- between 20- 50%	2	2
	- over 50%	3	
	- over 3 %	0	
3. Real capacity to recover claims	- between 1-2%	1	2
	- between 0-1%	2	
	- over 100%	0	
4. General Indebtness	- between 60-100%	1	0
	- under 60%	2	
	- under 0%	0	
5. Return on equity rate	- between 0-10%	1	2
	- between 10-30%	2]
	- over 30%	3	
	- over 90%	1	

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6.Stocks rotational speed	- between 30-90%	2		
-	- under 30%	3	1	
	- loss	0		
	- under 90%	1		
7. Claims recovery duration	- between 30-90%	2	2	
	- under 30%	3		
	- under 30%	1		
8. Duration of payment of short-term	- between 30-60%	2		
debts	- over 90%	3	3	
	- low capacity	0		
9. Position of the commercial company	- medium capacity	1	1	
in the branch according to the economic	- high capacity to influence the	1.5		
dimension	market	1,0		
	- local	1		
10. Market size	- national	2	1.5	
	- international	3	,	
	- worse	0		
11. Own situation compared to the	- comparable	1	1.5	
competition	- better	2	- ,-	
r · · · ·	- poor	0		
12. Relationship with the bank	- new client	1	3	
	- good	3	-	
	- Critical (if a customer accounts for	0		
	more than 50% of the receivables)	0		
13. Dependence on customers	- High (if a customer accounts for	1		
	more than 25% of the receivables)	-	2	
	- Low	2		
	- Critical (if a supplier accounts for	0		
	more than 50% of the debts)	-		
14. Dependence on suppliers	- High (if a supplier	1		
1 11	accounts for more than 25%			
	of the debts)		2	
	- Low	2		
	- Unknown, financial statements not			
	being accompanied by the opinion	0		
	of an external auditor			
15. Financial statements evaluation	- Financial statements audited by an	1		
	external auditor	1	1,5	
	- Financial statements audited by	2		
	one of the five large recognized	_		
	audit companies			
	- high	0		
16. Shareholding risk	- medium	1	2	
č	- low	2		
	- satisfactory	0		
17. Management team quality	- good	1	2	
5 1	- verv good	2		

Table no. 9 Quantitative indicators for SC Graminem SAduring 2013-2015 according to the proposed model

INDICATORS	2013	2014	2015
1. Current Liquidity	432%	537%	142%
2. Patrimonial Solvency	13%	23%	20%
3. Real capacity to recover claims	0	0	0
4. General Indebtness	668%	332%	381%
5. Return on equity rate	107%	107%	21%

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Annals of the "Constantin Brâncuși" University of Târgu Jiu, Economy Series, Issue 4/2017						
6. Stocks rotational speed	54	66,41	215,35			
7. Claims recovery time	36	32,40	90			
8. Duration of payment of short-term debts	38%	20%	112%			

Represented graphically, the proposed model indicators are presented in Figure no. 3.



Figure no. 3 Proposed model indicators

Source: own projection based on calculated data

After awarding the scores for each quantitative and qualitative indicator, the client is ranked in the appropriate performance class, according to the grid below:

Table no. 10 Category of credit by performance class according to the proposed Credit Rating Model

Customer Scoring	Financial Performance	Type of credit
Over 60 points	А	Standard
Between 45,1-60 points	В	In observation
Between 30,1-45 points	С	Under standard
Between 20,1-30 points	D	Uncertain
Under 20 points	Е	Loss

Table no. 11 Credit rating determination for SC Graminem SAduring 2013-2015 according to the proposed model

Criteria	2013	2014	2015
Current Liquidity	2	2	2
Patrimonial Solvency	1	2	2
Real capacity to recover claims	2	2	2
General Indebtness	0	0	0
Return on equity rate	3	3	2
Stocks rotational speed	2	2	1
Claims recovery time	2	2	2
Duration of payment of short-term debts	2	1	3
Position of the commercial company in the			
branch according to the economic dimension	1	1	1
Market size	1,5	1,5	1,5
Own situation compared to the competition	1,5	1,5	1,5
Relationship with the bank	3	3	3
Dependence on customers	2	2	2
Dependence on suppliers	2	2	2

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Financial statements evaluation	1,5	1,5	1,5			
Shareholding risk	2	2	2			
Management team quality	2	2	2			
Weighted score	30,5	30,5	30,5			
Category of credit	Under standard	Under standard	Under standard			
Category of performance	С	С	С			

The proposal for this model of analysis is based on the need to identify the peculiarities of two aspects specific to the relationship that is currently occurring between the creditor bank and the borrower whose activity is carried out in agriculture.

Commercial banks are generally reluctant to credit economic agents whose activity is agriculture due to the poor capacity or even the inability to obtain income for the whole period of the year. Due to the specificity of agricultural activity, especially in the case of economic agents whose main activity is primary agriculture, we are dealing with a large temporary gap in the periods when agricultural works are carried out, which means exclusively the recording of outputs on the revenue and payments flows, and periods in which revenue is recorded, i.e. inputs on cash flows, corresponding to the earned revenue. If in terms of the ability to pay the credit rates things can be solved by setting rates in the reimbursement schedule corresponding to the periods of collection of the registered revenues, the situation becomes questionable when it comes to collecting the interest rate, an operation being carried out usually the end of the last bank business day of each calendar month. Of course, there is also the possibility for the company to carry out other revenue-generating activities that provide the liquidity needed to pay the outstanding debts to the bank, as there is also the opportunity, less used in the current banking business to capitalize the interest rates during the periods in which the borrower does not have sufficient liquidity, a method which has the disadvantage of charging interest costs for the amounts of the recorded and capitalized interest rates, for which the interest is calculated again.

In this case, the model proposes a careful analysis of the clients portfolio and, in particular, of the customers who were in the balance at the date of analysis; for this purpose, the maturity of the balances is compared with the conditions for collecting the value of the sold and uncollected merchandise, as it results from the stipulations in the contracts concluded with the commercial clientele. In this case, the proposed model takes into account the deduction from the corresponding amount of all existing claims outstanding at the date of analysis, those amounts representing clients whose maturities exceed the deadlines contracted.

The immediate consequence of this transaction, if it is found that the maturity stipulated in the contract is exceeded, is the decrease of the amount recorded at the numerator of the current liquidity indicator and the corresponding diminution of its value. The value thus obtained is taken into account in the assessment of the creditworthiness, the depreciation of the economic agent under analysis being at the same time a realistic appreciation of a potential risk factor.

The operation to compare maturity of receivables is also done for the "claims recovery time" indicator, but one must note that the value of this indicator must be compared to the value of another indicator, i.e. the "Duration of payment of short-term debts". Interpretation of the value of these two indicators should always be made taking into account the fact that the recording of a lesser amount of time for the recovery of claims compared to the duration of payment of short-term debts (of course, provided they did not exceed in any case the due dates) will always bring along a reasonable level of available funds/money (in this case assessing the qualitative aspect of the company's management capacity to negotiate the collection deadlines under the time period of payment deadlines) and, in this way, will lead to the possibility of increasing the value of current liquidity indicator in perspective, which can be a prerequisite for the payment of outstanding debts to the bank.

Another advantage that this calculation methodology promotes is the deduction from the total volume of the stocks registered in accounting of the value of unfinished production, highlighted

correspondingly to the expenditures registered during the performance of the works provided by technology, in which case the potential credit beneficiary is appreciated correctly related to the specificity of the activity. As far as stocks are concerned, the model proposed opts for the corresponding diminution of stocks with the agricultural products value in the accounting stocks, represented by the products under conditioning and retention and which are to be capitalized in the next period with a higher added value. The advantage of this method, in terms of reconsidering the value of production in progress (the balance of accounts 331 and 345), is on the one hand that it provides a correct image of the stocks rotational speed and, on the other hand, gives the possibility of a realistic appreciation of the inputs of redeemable stocks and thereby rightly appreciates the actual payback capacity established on the receipts and payments flow by the right dimensioning of the stocks' volume.

Therefore, the proposed analysis model attempts to solve both the problem related to the correct assessment of the company's level of liquidity and the real capacity of reimbursement of the applicant, considering the aspects related to the specific nature of the agricultural activity, especially the one related to seasonality.

3. Conclusions

The use of analysis methods that are not differentiated according to the specificity of the applicant's activity (we can not use the same inappropriate analysis models for agriculture as when dealing with a business based on commerce) leads us to distorted conclusions in relation to reality, the biggest risk being that the bank does not notice the potential risks and, finally, abandon the prudence criteria for granting loans.

4. References

[1] Crediting rules of B.C.R.Erste Bank, BRD-GSG;

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