

CREDIT RISK IN AGRICULTURE

DANIELA HARANGUȘ¹

¹ "Aurel Vlaicu" University, Arad, Romania, e-mail:
d_harangus@yahoo.com

Abstract: Banks are permanently concerned to establish measures to mitigate credit risk. These measures are preventive, operative and curative. In order to decrease risk exposure, banks create a strategy for identifying, quantifying and continuous monitoring of risk exposures. This research aims to identify risk factors and symptoms in activity of agricultural farms. The elements that intensify the credit risk in agriculture are also analyzed. There are a lot of requirements of banking prudence imposed by the National Bank of Romania.

Key words: Banks, credit risk, agricultural credit, factors and symptoms, risk exposure.

INTRODUCTION

In the context of the current financial crisis, banks set their strategy for managing credit risk. Banks have the following priorities: identifying risks and their systematic assessment and establishing the degree of significance for each risk category.

Bank's financial stability is directly influenced by how risks are managed. Given that, the credit activity has an important share in the activity carried out by commercial banks, it is obvious that an effective credit risk management system generates positive effects for banks and their clients. For banks, the positive effects consist in reducing the level of losses from non-performing loans, optimizing revenues and expenditures forecasted in drawing up income and expenditure budgets, as well as diminishing the volatility of financial results.

Credit risk represents a significant risk for banks, with impact on their economic situation and reputation. Starting from these considerations, banks maintain transparent governance with clear roles and responsibilities. This should provide adequate oversight and continuous review of the risk management framework. Each commercial bank has a strategy regarding credit risk management. Credit risk in agriculture represents a major risk for commercial banks, given that agriculture is the economic sector with the highest risk.

In order to determine the risk profile and promote certain types of loans, commercial banks set their limits regarding concentration exposure on:

- Types of exposure;
- Economic sectors;
- Categories of clients;
- Geographic areas;
- Currency;
- Duration of credit;
- Estimated profitability of the portfolio.

This research aims to identify the dimensions of credit risk in agriculture, as well as the factors and symptoms. There also highlighted the credit risks indicators monitored by the National Banks of Romania. The purpose of the research is to identify the techniques and measures to mitigate credit risk. The strategy of commercial banks regarding credit risks aims the general requirements to elaborate policies on the credit activity in agriculture in terms of the credit risk approach.

MATERIALS AND METHODS

The main research subject is the complexity of credit risk dimension in agriculture, as well as of risk factors and symptoms. Credit risk information is presented in structure and dynamic evolution during the years 2012-2015. The items that enhance credit risk in agriculture, risk factors and symptoms, as well as risk mitigation measures are subjects of the classification.

The scientific research methods used in this paper are theoretical and empirical. The paper uses the theoretical research methods: analysis, synthesis, induction, deduction, comparison, formulation of hypotheses and speculation. The empirical research methods used are: enumeration, classification, quantification and evidence. The paper uses the research method as the analysis of dimensions and the identification elements of credit risk in agriculture. Risk factors and symptoms are also analyzed and classified.

Another research method used in this paper is the criteria method used in the classification of operational and temporal dimensions of credit risk identification and of credit risk mitigation measures (preventive, operative and curative). Moreover, classification and enumeration are used as research methods in delimiting elements that enhance credit risk in agriculture. The analysis performed by the structure and evolution, during the years 2012-2015, of credit risk information used as research methods: analysis, classification, enumeration, quantification and comparison.

The research area includes the dimension and areas that enhance credit risk in agriculture, risk factors and symptoms, techniques and measures to limit credit risk. Credit risk information is also analyzed, in structure and dynamics, information that is monitored by the National Bank of Romania, for the entire Romanian banking system.

The main objectives for this study are:

- Identifying the dimensions of credit risk in agriculture;
- Delimitation of credit risk factor and symptoms;
- Presenting elements that enhance credit risk in agriculture;
- Analysis of credit risk information during the years 2012-2015, monitored by the National Bank of Romania;
- Highlighting some techniques and measures to limit and mitigate credit risk in agriculture.

The data used in this research are banking financial indicators presented by National Bank of Romania in its Monthly Bulletin. These indicators are centralized on the entire Romanian banking system and cover all commercial banks of our banking system.

RESEARCH RESULTS

Credit risk identification takes place both at the initiation of new credit transactions, as well as during the credit transactions of the portfolio of commercial banks. Banks identify the credit risk derived from the client's financial performance (respectively, the quality of the counterparty) and this is associated to its credit products. These elements outline the two dimensions of identifying credit risk in agriculture, respectively the temporal and operational dimension.

The two dimensions of identifying credit risk in agriculture are presented in the following figure:

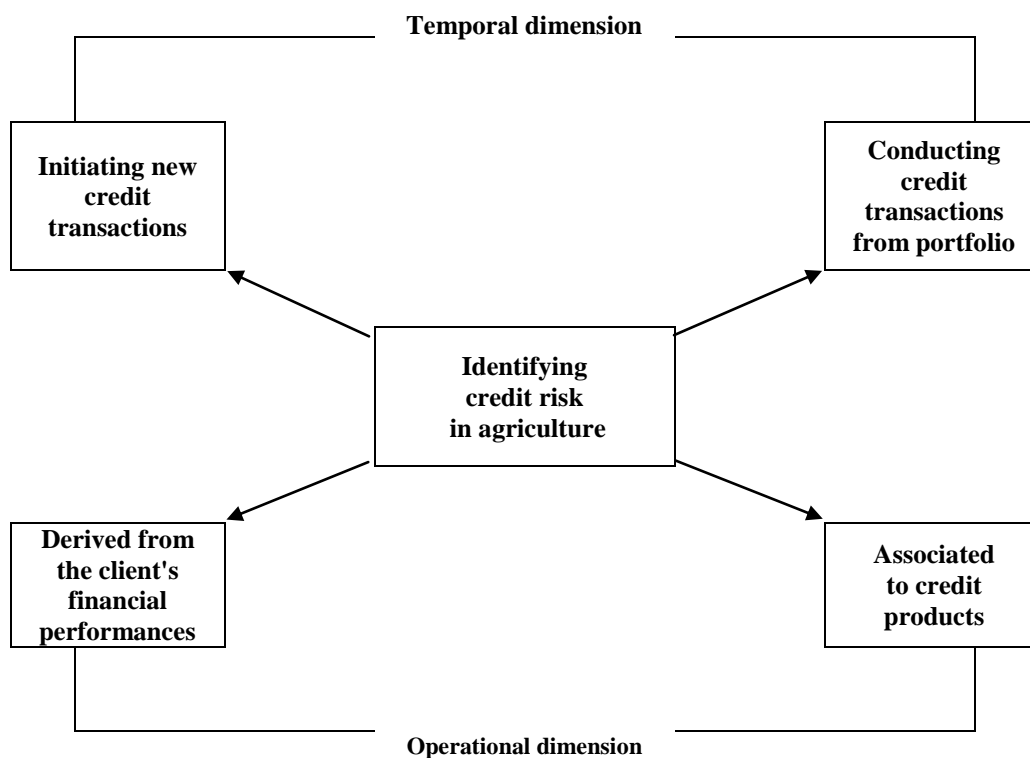


Figure 1. Identifying credit risk

The dimension of credit risk in agriculture can also be given by:

- type of credit accessed or its destination, respectively for production, investments, establishing seasonal grain or fodder stocks and others;
- duration of the credit (short, medium or long term);
- currency in which the credit is granted, respectively Lei or foreign currency;
- credit reimbursement mode, respectively: constant annuities, equal payments, entirely at maturity or according to a flexible repayment schedule;
- credit guarantee modality, respectively insuring guarantees required by the bank (mortgages, pledges, collateral cash, letters of guarantee and others);

Agriculture is the economic sector with the highest risk. The items that enhance credit risks in agriculture are:

- seasonality of production and quality of agricultural products;
- influence of natural factors affecting the yields per hectare;
- natural climatic fluctuations and natural disasters;
- perishability of agricultural products;
- excessive fragmentation of land ownership;
- organizing the capitalization network of agricultural production;
- mostly old age farmers;
- degree of perception and acceptance of new, and so on.

These elements are specific to the agricultural sector and bring commercial banks extra risks in crediting agriculture.

In assessing risk associated to agricultural credits, commercial banks can use and qualify risk factors and symptoms, that mainly aim financial and accounting aspects, capital structure, investment projects, and also non-financial aspects.

The main risk factors and symptoms monitored by commercial banks are presented in the following table:

Table 1

Risk factors and symptoms	
Cr. no.	Risk factors and symptoms
A. Risk factors	
1.	Over-dimensioning business volume compared to the existing possibilities (uncontrolled expansion)
2.	Inadequate capital structure (existence of excessive fixed assets and not enough current assets)
3.	Inadequate capitalization (very small reinvested profit)
4.	Too large or too many investment projects in execution
B. Risk symptoms	
1.	Financial signs (delayed payments, increased inventories and others)
2.	"Creative" accounting (presenting synthetic data not supported by analytical records, "arranging" some indicators and so on)
3.	Non-financial signals (refusals for poor quality, noncompliance with contract terms and so on)
4.	Other signals (resignations of staff - especially senior management, legal actions, unfavorable rumors and others)

Source: Daniela Haranguş, Credit institutions, Eurostampa Publishing House, Timișoara, 2015, pp. 193.

To limit and mitigate credit risk in agriculture, banks use a number of techniques. These techniques to mitigate credit risk relate mainly to the establishment and consolidation of insuring guarantees, as well as to transfer to the banks the rights for compensation from insuring the assets taken as credit guarantees. To recover agricultural credits, banks require beneficiaries the insurance of the guaranteed assets, in an insurance company. The guaranteed assets will be insured throughout the period of the credit, for risks specific to each category.

The purpose of accepting a guarantee is to minimize the loss resulting from the occurrence of an event that would inhibit the reimbursement (credit risk).

Banks are constantly preoccupied to mitigate credit risk. The measures to prevent and limit credit risk in agriculture are classified into three categories:

- *preventive measures*, referring to verifications regarding: reasons and purpose of the credit request, the economic and financial situation of the client, concluded contracts and constituted guarantees;
- *operative measures*, which relate primarily to the completion of credit contracts in favorable terms for the bank. Operative measures refer to: verifying the compliance with the purpose of the credit, verifying the credit guarantee, in writing, as well as factual, verifying the receipts and payments of the customer's account, and others.
- *curative measures*, referring to the interruption of the credit contract and initiating the legal procedures of forced execution of insured guarantees.

To mitigate credit risk in agriculture, in addition to the specific banking measures presented, agri-business represents a solution for agricultural farms, which integrates all activities, from production to the distribution of agricultural products. Agribusiness creates a closed circuit between the farmer and the consumer, thus reducing the farmers' business risk.

The National Bank of Romania has an important role in monitoring the credit risk faced by commercial banks. It synthesizes and analyzes information for credit risk, in structure and dynamics, overall the banking system.

The evolution of this credit risk information, during the period 2012-2015, is presented in the following table:

Table 2**Credit risk information**

Credit risk information	Period			
	2012	2013	2014	2015
Total amounts owed Global risk (million lei)	263 330	257 334	261 813	275 954
Total amounts unpaid (million lei)	27 598	31 542	31 346	31 430
Number of debtors (individuals and legal entities)	935 263	902 615	921 793	990 623
Number of debtors with unpaid debts	231 903	214 356	198 813	186 445
Number of interrogations of the Central Credit Risk (CCR) database	128 014	131 421	130 606	99 429

Source: National Bank of Romania, Monthly Bulletin, February 2016, pp. 59.

It can be observed that, during the analyzed period, the global credit risk increased from 263 330 million Lei to 275 954 million Lei, respectively 4.8%, given that the unpaid amounts registered an increase of 13.9%. Also, during the period 2012-2015, the number of debtors increased from 935 263 to 990 623, respectively by 5.9%. Since the growth rate of unpaid amounts exceeds by 8% the growth rate of the number of debtors (13.9% - 5.9%), the result is a degradation of the quality of businesses conducted by beneficiaries of bank credits.

This situation takes place while commercial banks are facing a global credit risk higher by 4.8% in 2015 compared to 2012.

CONCLUSIONS

From the research carried out results that credit risk in agriculture is a major risk for commercial banks. It is also amplified by the fact that agriculture represents a sector with high risk.

Commercial banks approach various techniques of identifying, preventing and mitigating credit risk in agriculture. Banks also identify risk factors and symptoms in the activity of agricultural farms applying for credits.

The importance of credit risk in agriculture requires a complex approach of the measures that should be taken by commercial banks to protect themselves from risks. This decalogue of measures targets the following:

1. Delimiting the bank's risk profile;
2. Establishing an adequate methodology for risk assessment;
3. Establishing the limits for risk exposure;
4. Monitoring and permanent control of major risks;
5. Establishing competences and responsibilities for the management and the control of risk exposure;
6. Establishment and adjustment of specific risk provisions;
7. Downgrading or improving the rating given to customers according to their financial performances;
8. Analysis of the risk cost;
9. Compatibility between the risk management framework and the regulatory requirements;

10. Implementing policies and procedures for credit risk management for the entire bank, respectively all its territorial units.

In the research carried out, two dimensions were delimited in identifying credit risk, temporal and operational. They enable a more detailed analysis of the credit risk in agriculture, analysis that can be addressed in the banking practice.

Each commercial bank has a strategy for managing credit risk. The National Bank of Romania monitors the credit risk faced by commercial banks in the Romanian banking system. Also, the National Bank of Romania analyzes credit risk information, in dynamics and structure, overall the banking system in order to direct its monetary and credit policy in the economy.

REFERENCES

1. **CHUEN-PING CHANG**, 2014, A barrier option framework for rescue package designs and bank default risks, *Journal of Economic Modelling*, No. 38 (2014), pp. 246–257, journal homepage: www.elsevier.com/locate/ecmod
2. **HARANGUȘ, DANIELA**, 2015, *Credit institutions*, Eurostampa Publishing House, Timișoara
3. **MAMIZA HAQ, ROBERT FAFF, RAMA SETH, SUNIL MOHANTY**, 2014, Disciplinary tools and bank risk exposure, in *Pacific-Basin Finance Journal*, No.26 (2014), pp. 37–64, journal homepage: www.elsevier.com/locate/pacfin
4. <http://credit-agricole.ro/wp-content/uploads/2012/04/Raport-privind-cerintele-de-publicare-2012.pdf>
5. https://www.cec.ro/UserFiles/File/Anexa_2_RBNR_2013.pdf
6. www.bnro.ro