



Credit granting and rural producers' default in Rondônia, Brazil

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Abstract

This article aims to examine the scenario of credit granting and default among rural producers in the state of Rondônia between the years 2020 and 2024. The research is quantitative and descriptive, based on secondary data and document analysis concerning the management and operations of Banco da Amazônia (Bank of the Amazon) related to the Constitutional Fund for Financing the North (FNO). The results show that approximately 4.5 billion reais and 16,689 loans were granted during the period under study, of which 9,239 were allocated for operating expenses and 5,116 for investment purposes. It was found that default rates are low, since only 282 contracts (1.69% of the total) had overdue installments. It is also noteworthy that 10 municipalities in Rondônia, out of a total of 52, concentrate 48.48% of the credit contracts and 62.75% of the total credit amount granted. The study concludes that rural credit provides producers with resources to finance their activities and invest in infrastructure, innovation, and technology, enabling them to increase production, productivity, employment, and income, as well as improve living conditions in rural areas. These findings contribute to the understanding of the dynamics of rural credit allocation and default, providing insights for future research and for policies aimed at improving the rural credit system in the state.

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Introduction

Rural credit has been the main means of supporting rural producers since 1965, with the institutionalization of the National Rural Credit System through Law No. 4,829 (1965), regulated by Decree No. 58,380 (1966) and by the Rural Credit Manual (MCR) of the Central Bank of Brazil. The rural credit policy has undergone continuous revisions and improvements since its institutionalization, aiming to increase its effectiveness and simplify operational rules. Over time, more resources have been made available with more attractive market interest rates, focusing on small and medium-sized rural producers and on priority investment programs, promoting sustainable practices and technological innovation, while adapting to market conditions and other public policies (Araújo *et al.*, 2020).

Agribusiness financing in Brazil has historically offered interest rates lower than the country's basic interest rate, the SELIC. To illustrate this difference, the 2003/2004 crop season had R\$ 32.5 billion in credit, with an average interest rate of 8.75% for producers under the National Program for Support of Medium-Sized Rural Producers (PRONAMP) credit line. This represented almost half of the SELIC, which closed the year 2003 at 16.32%. The same incentive policy was maintained in the 2023/2024 crop season, when R\$ 364.22 billion was made available to support rural production. The interest rate applied was 8%, significantly lower than the SELIC, which ended 2023 at 11.65% (Brazil, 2003, 2024).

Rural financing is important to cover agricultural and livestock activities, invest in infrastructure, machinery, agricultural implements, and technologies, as well as to replenish working capital, acquire inputs necessary for cultivation and maintenance of rural establishments, commercialization, and industrialization of production.

In addition, the study by Borges and Parré (2022) sought to estimate the impact that rural credit has on Brazil's agricultural output between 1999 and 2018. To this end, the authors used Vector Autoregressions (VAR), Granger causality tests, and regressions by ordinary least squares (OLS) and generalized least squares (GLS). The research found that a 1% increase in the total volume of rural credit leads to an approximate 0.20% increase in agricultural GDP, meaning that rural credit stimulates agricultural GDP growth.

Since its creation in the 1960s to contemporary times, rural credit has been undergoing a process of structuring and evolution, expanding its reach and volume of resources and fulfilling its objectives of stimulating investment in rural activities, strengthening the economy of rural producers, among other positive results throughout its history.

Legislation itself emphasizes the importance of monetary authorities, especially the responsibilities assigned to the National Monetary Council

(CMN) and the Central Bank of Brazil (BCB) in regulating rural credit, establishing guidelines and instructions related to the application and control of this credit modality, providing technical and economic assistance services to producers, and overseeing the resources granted (Brazil, 1965). In addition, it aims at the proper use of invested resources, the fulfillment of its objectives, and avoiding negative results, such as delays in the payment of installments by producers and, mainly, default. Despite these institutional mechanisms of the National Rural Credit System, producers face challenges in meeting contractual obligations to repay loans, leading them into indebtedness and, in some cases, default.

Default occurs when credit installments are overdue or unpaid, resulting in the registration of debtors, whether individuals or legal entities, in credit protection databases maintained by organizations such as the Credit Protection Service (SPC) and SERASA, which may hinder future attempts to obtain credit from financial institutions. A survey conducted by Serasa Experian in July 2023 indicated that 28% of Brazilian rural producers were in default. In Rondônia, this percentage was even higher, reaching 31.7% (SERASA, 2023).

Rural producers are responsible for much of the food that reaches Brazilian households, such as grains, vegetables, fruits, meats, and dairy products. In this context, the agricultural sector is fundamental to the economy, generating jobs and contributing significantly to the country's Gross Domestic Product (GDP). It supplies both domestic and foreign markets with food and raw materials essential for industry, processed, and industrialized foods.

The economy of Rondônia is strongly influenced by agricultural and livestock production, which plays a significant socioeconomic role (Marcolan, Teixeira & Evangelista, 2018). Coffee, corn, soybeans, and rice stand out in agriculture, while beef and dairy cattle are key in livestock production (Embrapa, 2024). According to the 2017 Agricultural Census, the state has 91,438 rural establishments, of which 18,313 obtained some type of rural financing (IBGE, 2017). The state also stands out for its strategic geographic position in the Legal Amazon, with fertile soils and abundant water resources, which favor agricultural production.

The choice of Rondônia as the focus of this case study is justified by its characteristics within the Brazilian agricultural context. Located in the Northern region of Brazil, Rondônia has an estimated population of around 1.6 million inhabitants according to the 2022 demographic census (IBGE, 2022), with a strong presence of workers in the primary sector, especially in family farming and dairy cattle ranching (Silva, 2023). The composition of the workforce in the state reveals the importance of agribusiness and family farming, which account for a significant share of the state's Gross Domestic Product and employ a large portion of the economically active population (Santos, 2021).

However, Barros *et al.* (2015) reinforce that agricultural activity involves high risks for producers, due to the possibility of external factors such as adverse weather conditions, diseases, and pests, which can significantly affect both the quantity and quality of production. As a result, these factors may compromise the fulfillment of commitments established between stakeholders, including credit contracts. Furthermore, Lu *et al.* (2024) found a correlation between financial education and default. The results indicate that farmers who lack a good understanding of finance and who do not master essential money management skills are at greater risk of becoming defaulters.

Given this scenario, it becomes necessary to analyze credit granting and default among rural producers in Rondônia. To this end, the research focuses on the distribution of contracts and the ways in which producers use the resources obtained. In this context, the following research question arises: What is the extent of default among producers in the state of Rondônia?

The objective of this research is to describe the scenario of credit granting and default among rural producers in the state of Rondônia. In addition, it aims to analyze the distribution of contracts by economic scale and municipal location, based on data provided by Banco da Amazônia (BASA) for the years between 2020 and 2024, a period encompassing the pandemic and post-pandemic of Covid-19, which accentuated indebtedness and default in various sectors of the country.

1. Background

1.1. Regional Development Theory

Gunnar Myrdal's Theory of Regional Development argues that economic development tends to concentrate in already developed areas. This creates a virtuous cycle of growth, while less developed regions face a vicious cycle of underdevelopment. This dynamic is observed in underdeveloped rural areas, where the lack of investment is one of the main obstacles to progress (Myrdal, 1960).

In this context, rural credit is a fundamental strategy to break these vicious cycles. By providing financing to farmers, it not only stimulates agricultural production but also seeks to increase income and improve quality of life in rural areas. It is expected that access to credit will initiate a virtuous cycle, in which increased production generates more jobs and income, creating a favorable environment for new economic initiatives.

Myrdal (1960) notes that it is natural for a region to benefit from expanding agricultural markets and to be driven by technical progress. However, in order for these benefits to be maximized and regional

inequalities to be addressed, collaboration between public policies and the private sector is crucial.

Hirschman (1958) complements this theory by highlighting that countries face difficulties in reaching their full development potential due to the lack of strategic decision-making. He introduced the concept of linkages, which explains how investments in key sectors, such as agriculture, can catalyze regional development. For him, the State must be proactive in creating essential social infrastructure, including public services and adequate legislation, to foster production.

For this to occur, rural credit must be accompanied by a development strategy that prioritizes sectors with high linkage potential and that includes training for farmers and technological innovation (Lima & Simões, 2010).

According to Lima and Simões (2010), this infrastructure should not only meet immediate needs but also promote sustainable and inclusive economic growth. For this to happen, it is important that rural credit be accompanied by a development strategy that prioritizes sectors with high productive linkage potential and that encompasses farmer training and technological innovation.

Credit granting is fundamental for the rural sector, an important segment of the Brazilian economy. This sector drives foreign exchange generation and ensures food security in the country. Moreover, it contributes to the development of regions more distant from major financial and industrial centers (Cavinato & Capitani, 2023). Agricultural financing fosters the expansion of these areas, stimulating the development of regions where credit is made available.

Finally, foreign capital can act as a balancing mechanism in situations where the government faces limitations in taking action. External investments can provide the resources needed to initiate or expand projects that would otherwise not be viable. In this sense, rural credit, when well-structured and complemented by effective public policies, can become an important tool for the economic and financial development of rural activities (Farias *et al.*, 2018), breaking through the barriers of underdevelopment and fostering more equitable and sustainable growth.

1.2. Rural Credit and Default

The agricultural credit system is composed of formal financial institutions, such as government and private commercial banks, whose operations are supervised by the Central Bank of Brazil (BCB) and the National Monetary Council (CMN). Rural credit is an essential type of financing intended for producers, cooperatives, and agents in the agricultural

sector, with the purpose of covering crop expenses, investing in properties, commercialization, storage, logistics, and industrialization (BCB, 2024). The granting of this credit is conditioned on the presentation of documents proving financial capacity, the availability of guarantees, and the regularization of property ownership (CMN Resolution No. 4,883, 2020).

Rural credit is essential for the development of agricultural activity. It enables the introduction of technological innovations in the field, resulting in a significant increase in production in recent decades (Araújo & Silva, 2021). The studies of Silva & Ferreira (2016) and Gasques *et al.* (2017) investigated the connection between rural credit and total factor productivity (TFP), pointing out that there is a positive relationship between the two. According to them, credit allows improvements in the production process through access to technological innovations. To clarify, TFP is the increase in output that cannot be explained by greater use of inputs or resources such as labor, capital, and land. In addition, Barros *et al.* (2015) highlight the social importance of credit, which contributes to food supply, job and income creation, and the permanence of people in rural areas.

The Law No. 4,829/1965, which institutionalizes rural credit, establishes clear objectives for this system, such as stimulating rural investments, encouraging rational production systems, increasing productivity, and improving the standard of living of rural populations. The legislation also aims to protect soil and the environment, reduce production costs, facilitate commercialization, and strengthen rural producers, especially small and medium-sized ones. Furthermore, the BCB also points out that rural credit is intended to enable land purchase and regularization, as well as the development of agroforestry and fishing activities, strengthening producers, particularly small and medium-sized.

Access to formal agricultural credit, however, remains quite limited, highlighting the importance of finding ways to expand it (Benson & Faguet, 2022). This scenario is aggravated by the issue of default. Default occurs when an individual or organization fails to meet the payment obligation on the contractually established date (BCB, 2024). According to Lu *et al.* (2024), financial institutions do not have effective methods for analyzing credit risk, which increases the likelihood of default. This problem represents a major challenge for both borrowers and banks, with negative consequences for both sides, such as asset loss for borrowers and profit reduction for financial institutions (Zu *et al.*, 2024).

The behavioral and financial characteristics of borrowers are naturally considered as risk factors for default (Medina-Olivares *et al.*, 2022). Moreover, Kvitschal *et al.* (2015) highlight several causes of the problem, such as lack of producer training, adverse weather conditions, use of inadequate technology, difficulties in marketing production, use of credit for

other purposes, and deficiencies in technical assistance. The indebtedness process is further aggravated by the low level of training, especially among small-scale producers (Oliveira *et al.*, 2018).

Stiglitz and Weiss (1981) argue that the loan market is characterized by credit rationing. According to the authors, lenders tend to increase interest rates and collateral requirements, which ultimately attracts higher-risk borrowers. In such a situation, only projects with higher expected returns remain attractive, resulting in negative effects on default. Rocha *et al.* (2022) add that the growth of default reduces credit supply and increases financing rates.

The Banco da Amazônia (BASA) is a public bank that acts as an arm of the Federal Government in the implementation of public policies and the management of funds for sustainable development in the Amazon region. With a results-oriented management approach, BASA's strategic objectives are to promote sustainability and to be a reference in microbusinesses. Its role seeks to direct resources toward inclusive and equitable development, contributing to the agricultural sector and improving the quality of life of rural populations (BASA, 2023). Concern with default is particularly relevant, since loans from public sources, such as those it manages, are five times more likely to result in indebtedness compared to those from private sources (Barros *et al.*, 2015).

Public banks may facilitate the allocation of small credit operations to low-wealth farmers, following normative considerations such as their mission to promote rural development and regulations that favor these farmers. Moreover, aggregate access to credit for low-wealth farmers occurs mainly through the public sector (Benson & Faguet, 2022).

2. Materials and methods

This research can be classified as descriptive, with a quantitative approach. It used secondary data sources with the aim of obtaining a comprehensive understanding of the financing granted to rural producers in Rondônia. In addition, documents related to the management and operations of Banco da Amazônia linked to the Constitutional Fund of the North (FNO) were analyzed.

To obtain an overview of rural financing in the state of Rondônia, an analysis was carried out using the database of the Rural Credit Data Matrix of the Central Bank of Brazil (BCB). This consultation made it possible to identify the main financial institutions operating in this sector, revealing that Banco do Brasil and Banco da Amazônia S.A. (BASA) stand out as the institutions that granted the most loans to rural producers in the region between 2020 and 2024.

In this sense, to obtain a general view of the number of contracts in default, information requests were made based on Law No. 12.527/2011 (Access to Information Law) through the Fala.BR platform. These requests were directed to Banco do Brasil and Banco da Amazônia, financial institutions that operate with resources from public constitutional funds aimed at regional and social development.

To analyze the evolution of credit granting during and after the Covid-19 pandemic, a period of crisis and economic downturn, the analysis focused on the period from 2020 to 2024. Thus, the following data were requested: number of rural financing contracts signed with rural producers (individuals and legal entities) and cooperatives; number of contracts in default in the same period; classification of contracts according to the purpose of credit (working capital, investment, commercialization, industrialization); and sociodemographic data of the borrowers (age, gender, income, and city of contracting).

The requests were submitted through the Fala.BR channel, which, according to Article 11 of Law No. 12.527/2011, must be answered by the requested entity within 20 days, with a possible extension of 10 more days. Banco do Brasil denied access to default data on the grounds of commercial confidentiality and referred to the BCB as the source of the data. On the other hand, Banco da Amazônia granted access to most of the requested data.

Banco da Amazônia provided a data spreadsheet of loans granted with resources from the Constitutional Fund for Financing of the North (FNO), covering the period from January 2020 to May 2024, with the following information: number and value of contracts, year, type of activity (livestock, agriculture), size, purpose, program, bank product, municipality, and contracts in default with overdue amounts. It should be noted that the financial institution reported that it does not have gender, age, and income information in its database.

In the spreadsheet sent by BASA, the amounts granted for 132 contracts were not provided, which affected the analysis. It was decided not to apply data imputation techniques in order to avoid distorting the results. Furthermore, these contracts were not excluded from the analysis and were included in the contract quantity statements. Given the above, the analysis of this study was limited to credit borrowers – rural producers – served by BASA, making a comparison with open data from the Central Bank.

The choice of Banco da Amazônia (BASA) for this study is justified by two main reasons: first, because it is one of the institutions that most granted loans to rural producers in the analyzed period; and second, due to its strategic nature and development mission for the Amazon region, as established in Law No. 12.024/2009.

Unlike banks with a strictly commercial focus, BASA has a credit portfolio shaped by its social and economic role. This characteristic directs its financing toward specific types of producers and projects, such as small landowners, family farming, and beneficiaries of public programs (BASA, 2023). In addition, BASA, as a public financial institution, plays a fundamental role in supporting regional development by providing credit and financial services to small and medium-sized entrepreneurs, farmers, and local communities (De Lima, Da Cruz Bastos, Dos Santos Gastão, 2025).

The execution of BASA's resources is carried out through Financing Programs, developed by Banco da Amazônia, following the general guidelines of the Ministry of Integration and Regional Development and the sectoral and spatial priorities established by the Superintendence for the Development of the Amazon (SUDAM), in line with Regional Development Plans. Moreover, the resources primarily serve the smallest productive segments (mini/micro, small entrepreneurs, individual micro-entrepreneurs, and family-based agriculture) (BASA, 2023).

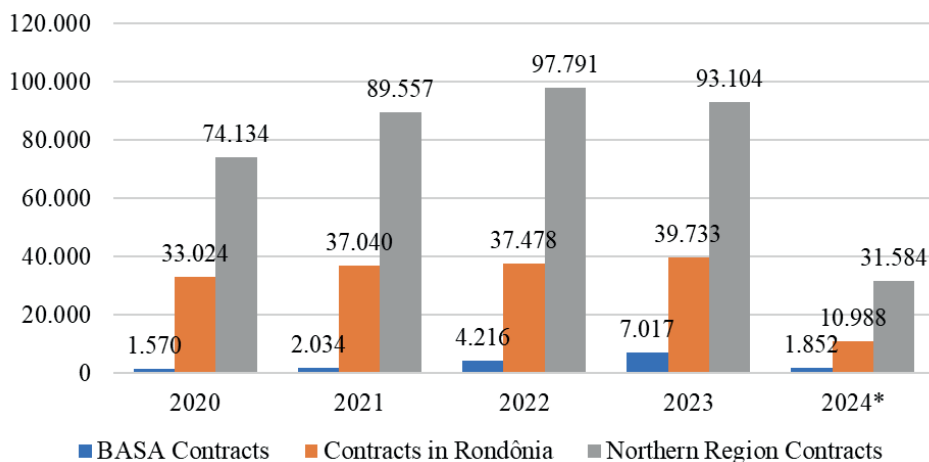
The data provided by Banco da Amazônia cover only the financing granted with resources from the Constitutional Fund for Financing of the North (FNO), an economic-financial instrument to stimulate economic activities developed on a sustainable basis in the North Region. In this regard, in the rural sector it is destined for the National Program for Strengthening Family Farming (Pronaf), the Oriented Productive Microcredit (MPO), and other credit lines of the sector. The interest rate applied depends on the sector, size, and purpose of the loan (BASA, 2024).

The data collected were tabulated using Microsoft Excel, allowing a detailed and organized analysis of the information. This stage included categorizing the data according to various criteria, such as sector of activity, value and number of contracts granted, purpose of loans, size of borrowers, default rate, and municipality of clients.

3. Results

When analyzing the time series from Banco da Amazônia and the BCB, it is noted that the granting of rural credit resources has increased in the state of Rondônia, demonstrating that there is significant financial support for the progress of agricultural activity. When compared to the Northern Region, it appears that Rondônia accounts for a large portion of the loans granted. The Figure 1 presents a comparison of the total number of rural credit contracts granted by financial institutions in the Northern Region, in the state of Rondônia, and specifically by Banco da Amazônia (BASA), in the period from 2020 to 2024.

Figure 1 - Number of rural credit contracts in the period from 2020 to 2024



Source: Elaborated by the authors based on data from Banco da Amazônia and the Central Bank of Brazil.

* 2024 data until 05/31/2024.

As can be observed in Figure 1, the credit granted by Banco da Amazônia to rural producers in Rondônia grew throughout the analyzed period, and 2023 was the year in which there were more concessions by the institution in the state. The data also reveals that BASA does not have a significant participation in the total financing signed in the state, since in the period from 2020 to 2024 it was responsible for only 10.55% of the total contracts in Rondônia.

Table 1 - Number of BASA contracts in Rondônia, by purpose

Purpose	Year					Total
	2020	2021	2022	2023	2024	
Operating Costs	7	104	2.268	5.399	1.461	9.239
Investment	1.024	1.240	1.320	1.218	314	5.116
Fixed Investment	157	136	140	90	22	545
Mixed Investment	19	21	10	5	11	66
Semi-Fixed Investment	363	533	478	305	44	1.723

Source: Elaborated by the authors based on data from Banco da Amazônia and the Central Bank of Brazil.

* 2024 data until 05/31/2024.

The analysis of contracts, segmented by purpose, as presented in Table 1, reveals the distribution of financing according to the specific needs of rural producers. It's observed that 9,239 contracts were allocated to operating costs, reflecting the high demand from producers for resources to cover operational expenses. For investment purposes, 5,116 contracts were accounted for. This type of financing is aimed at acquisitions that seek to expand the productive capacity of producers, such as the purchase of machinery and equipment.

A specific segment of investment, fixed investment, had 545 contracts signed in the analyzed period, standing out for financing aimed at permanent improvements in property infrastructure. Mixed investment (operating costs and/or commercialization associated with investment) corresponds to 66 contracts, and this type of transfer allows greater flexibility for producers to meet the needs of their enterprise. Finally, financing for semi-fixed investment totaled 1,723 contracts, and this resource should be used for acquisitions that do not fully qualify as fixed or variable, covering intermediate items.

This distribution by purpose of rural credit contracts highlights the diversity of financial needs of rural producers in Rondônia over the years and the importance of making different credit modalities available to adequately meet the demands of the agricultural sector. Furthermore, it allows producers to improve their operations to compete more equitably with producers from more developed regions.

Regarding the amounts released for each purpose, it was found that financing aimed at investments corresponds to the largest portion of the resources granted, as can be observed in Table 2.

Table 2 - Total amount released by BASA in Rondônia, by credit purpose (2020-2024)*

Purpose	Total amount
Operating Costs	R\$ 1.669.328.530,00
Investment	R\$ 469.384.376,60
Fixed Investment	R\$ 929.862.902,50
Mixed Investment	R\$ 106.895.842,00
Semi-Fixed Investment	R\$ 1.361.269.369,00

Source: Elaborated by the authors based on data from Banco da Amazônia.

* 2024 data until 05/31/2024.

The resources allocated to operating costs in the period from 2020 to May 2024 totaled R\$ 1,669,328,530.00, while the amount allocated to investment in general was R\$ 2,867,412,490.10. In this context, throughout the period under analysis, approximately 4.6 billion reais were made available to rural producers, allocated in the operating costs, investment, and commercialization segments.

In this sense, considering the possibilities of applying investment resources provided for in CMN Resolution No. 4,883 of 12/23/2020, it is found that producers needed to resort to BASA to finance services such as construction, renovation and improvements in permanent facilities, acquisition of machinery, irrigation and drainage works, formation of permanent crops, formation or recovery of pastures, soil correction and recovery, and acquisition of animals for reproduction.

The analysis of default by rural producers benefiting from credit in Rondônia presents data that help to understand the evolution of this problem over the years. The default scenario for Banco da Amazônia customers is represented in Table 3.

Table 3 - Default of BASA's rural financing portfolio in Rondônia

Year	Resource Granting	Default (%)	Defaulted contracts
2020	R\$ 598.004.823,33	0,16%	R\$ 964.326,02
2021	R\$ 803.533.813,67	2,35%	R\$ 18.921.602,24
2022	R\$ 1.115.484.596,03	0,83%	R\$ 9.298.550,55
2023	R\$ 1.498.709.658,87	0,99%	R\$ 14.853.716,79
2024*	R\$ 521.008.128,17	–	R\$ 0,00
Total	R\$ 4.536.741.020,07	0,97%	R\$ 44.038.195,60

Source: Elaborated by the authors based on data from Banco da Amazônia.

* 2024 data until 05/31/2024.

The agribusiness figures demonstrate that the portfolio's default level is low, with an average default rate of 1.09% in the period between 2020 and 2023, a period in which approximately 4.5 billion reais were released to producers.

Data relating to 2024 contracts with overdue installments had zeroed values and did not include the default percentage in the spreadsheet provided by BASA, which may indicate that all contracts for the current year are current due to the short period analyzed in the year (January

to May 2024) or that the bank had not yet registered debtors in credit protection registries.

It is observed that the default rate peaked in 2021 (2.35%), significantly above the average for the analyzed period (0.97%). This behavior may be associated with the context of the Covid-19 pandemic, especially in the year when its economic effects were most severe in Brazil. The pandemic brought significant impacts to the global economy, with direct repercussions on the agricultural sector (Oliveira, 2025). The slowdown of economic activity, mobility restrictions, and rising production costs directly affected the payment capacity of rural producers, contributing to the temporary increase in default.

The 2024 FNO Application Plan indicates the existence of green credit programs and lines of financing that encourage sustainable agricultural practices and the adoption of new technologies. These initiatives are fundamental for increasing productivity, reducing risks associated with external factors (such as climate change), and improving farmers' capacity to repay their debts, thereby decreasing default rates and promoting a virtuous cycle of development.

The combination of easy credit with relative price and trade policies has greatly influenced the use of inputs/factors and agricultural production. A vast number of rules, regulations, programs, and projects were established by the Central Bank. These programs and projects had specific objectives, interest rates, terms, and repayment schemes. Three general features of credit policy deserve emphasis. The first is the nominal interest rates set at levels lower than those practiced in other loans. The second consists of numerous incentives and controls to ensure that banks lend more resources to farmers, using both their own liabilities – mainly demand deposits – and National Treasury funds. Third, since the creation of the National Program for Strengthening Family Farming (*Programa Nacional de Fortalecimento da Agricultura Familiar* – Pronaf) in 1996, with its social and distributive purpose, the nominal interest rates on loans granted to family farming producer groups have been set well below the rates applied to loans directed to commercial farmers (Araújo, 2011).

When analyzing default based on the number of contracts with overdue installments, it is evident that default is considered very low, as shown in Table 4.

Table 4 - Defaulted BASA contracts in Rondônia by credit release year

Year	Defaulted contracts	Total contracts
2020	31	1.570
2021	54	2.034
2022	119	4.216
2023	78	7.017
2024*	–	1.852
Total	282	16.689

Source: Elaborated by the authors based on data from Banco da Amazônia.

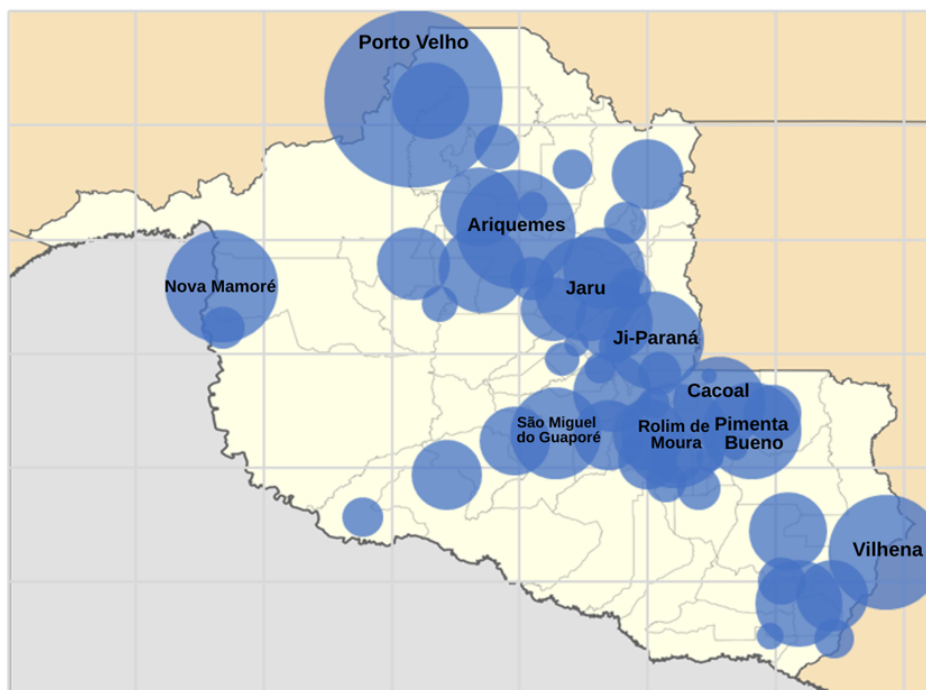
* 2024 data until 05/31/2024.

As shown in Table 4, of the 16,689 financing contracts granted between 2020 and May 2024, only 282 were in default. This figure corresponds to 1.69% of the contracts analyzed. This indicates that most producers are able to honor their commitments and remain current, even when facing challenges related to the climate, the agricultural market, and the challenges posed by the Covid-19 pandemic, which affected all sectors of the Brazilian economy.

Regarding the city of the clients, it was found that clients who obtained financing from BASA to subsidize agricultural activities in Rondônia reside in 117 municipalities, distributed across 17 Brazilian states.

The data reveals that 2.12% (384) contracts were signed with clients who maintain some activity related to agriculture or livestock in Rondônia, but who live outside the state. Contracts signed with residents of Rondônia correspond to 97.88% (16,335) of a total of 16,689 concessions. Figure 2 presents the concentration of contracts by municipality.

Figure 2 - Concentration of contracts granted in Rondônia, by municipality (2020 to 2024)



Source: Elaborated by the authors based on data from Banco da Amazônia.

As shown in Figure 2, most of the financing is concentrated in the capital Porto Velho, Ariquemes, Nova Mamoré, Vilhena, and in the municipalities located in the central portion of the state, along the BR-364 highway. On the map, the 10 municipalities most benefited by credit were identified. It is worth noting that the main cities of Rondônia developed along the BR-364 axis, and with agricultural activities it was no different. In this context, the entire surrounding region can benefit from the linkages of the agricultural sector, as postulated by Myrdal (1960).

The concentration of credit in a few municipalities observed in Rondônia, where 48.48% of credit contracts are concentrated in only 10 out of 52 municipalities, highlights strong regional inequalities in access to financing. This phenomenon can be interpreted in light of Myrdal's (1960) theory of cumulative causation. According to this theory, investments tend to cluster in already consolidated centers, such as those located along BR-364, reinforcing the development of these areas to the detriment of others. Thus, the already

developed regions continue to attract more resources, which widens the gap in relation to the less favored areas.

The Table 5 presents a ranking of the 20 municipalities with the most contracts.

Table 5 - Position of Rondônia municipalities in terms of number of contracts and amount granted (2020-2024)

Ranking	City	Contracts	Amount released
1	Porto Velho	1.962	R\$ 401.601.435,30
2	Ariquemes	883	R\$ 469.294.705,70
3	Vilhena	827	R\$ 406.020.198,00
4	Nova Mamoré	796	R\$ 524.148.172,30
5	Rolim de Moura	688	R\$ 214.374.163,10
6	Jaru	687	R\$ 218.533.173,00
7	Ji-Paraná	606	R\$ 134.556.423,50
8	Pimenta Bueno	595	R\$ 147.643.990,20
9	Cacoal	526	R\$ 259.923.768,90
10	São Miguel do Guaporé	521	R\$ 70.573.180,05
11	Monte Negro	484	R\$ 27.180.454,86
12	Cerejeiras	478	R\$ 259.199.083,10
13	Theobroma	412	R\$ 24.828.606,00
14	Alto Paraíso	392	R\$ 25.622.925,06
15	Alvorada D'Oeste	390	R\$ 38.169.286,70
16	Chupinguaia	386	R\$ 24.293.590,76
17	Ouro Preto do Oeste	369	R\$ 69.631.300,05
18	Candeias do Jamari	363	R\$ 9.730.030,80
19	Buritis	336	R\$ 45.489.142,66
20	Novo Horizonte do Oeste	328	R\$ 19.918.296,66

Source: Elaborated by the authors based on data from Banco da Amazônia.

As highlighted in Table 5, the top 10 municipalities together benefited from 8,091 loans out of a total of 16,689 contracts, equivalent to R\$ 2,846,669,210.05, an amount that represents 62.75% of the granted value from 2020 to May 2024, which was R\$ 4,536,741,020.07.

The area that benefited the most, in absolute values, from rural credit was livestock, both in the number of concessions and in the amount released, as it had 14,716 contracts and an injection of almost R\$ 3 billion in the period. On the other hand, in agriculture there were 1,973 contracts and R\$ 1,554,521,998.00 destined to producers in this segment.

In this context, according to BASA's FNO Financial Application Plan, beneficiaries (companies, individual micro-entrepreneurs, and rural producers) are classified by size based on their annual gross agricultural income or annual gross operating revenue, as shown in Table 6:

Table 6 - Classification of Credit Borrowers by Size and Contract Volume

Size	Annual Gross Agricultural Revenue⁽¹⁾ / Annual Gross Operating Revenue⁽²⁾ (R\$ 1,00)	Number of contracts
Mini/Micro	Up to R\$ 360.000,00	14.752
Small	Above R\$ 360.000,00 and up to R\$ 4.800.000,00	1.201
Small-Medium	Above R\$ 4.800.000,00 and up to R\$ 16.000.000,00	1
Medium I	Above R\$ 16.000.000,00 and up to R\$ 90.000.000,00	634
Medium II	Above R\$ 90.000.000,00 and up to R\$ 300.000.000,00	26
Large	Above R\$ 300.000.000,00	75

Source: Adapted from BASA data.

(1) For the rural sector.

(2) For non-rural sector.

Smaller-scale productive segments are classified as family farmers, mini, small, and small-to-medium rural producers, as well as their respective small and small-to-medium-sized cooperatives (Lima, 2016).

In Rondônia, during the period under analysis, it was identified that 88.39% (14,752) of the financing contracts were granted to mini/micro-sized beneficiaries, with an annual gross revenue of up to R\$ 360,000.00, among which 752 were subclassified as family farmers. In addition, small producers also stood out, as 1,201 loans were granted to them through various FNO credit lines. This result is positive, as it demonstrates that small rural enterprises are being financially supported and have the opportunity to improve their productive capacity. Furthermore, the fund allows small producers and entrepreneurs access to long-term financing under special conditions, promoting growth in employment and income and fostering the development of the Northern Region.

Conclusions

The data collected reveal a multifaceted reality of rural credit in Rondônia, highlighting both the economic vitality of the agricultural sector and the challenges faced by local producers. The analysis shows that rural credit has been important for the region's economic development, providing producers with the resources necessary for investment and working capital in their activities. The predominance of contracts aimed at covering operating costs reflects the ongoing need for support with operational expenses, while investments in infrastructure and technology indicate a movement toward modernization and increased production efficiency.

The low default rate observed suggests a capacity for financial management on the part of producers, despite market and climate adversities. This positive scenario, however, should not be interpreted as an absence of difficulties. The concentration of credit in certain regions of the state and in the livestock segment indicates that there are still areas and sectors that require greater attention and support in order to achieve balanced and sustainable development.

In addition, the analysis underscores the importance of public policies that continue to support rural credit, especially for small and medium-sized producers, who make up the majority of beneficiaries. The role of Banco da Amazônia and the use of funds such as FNO can help maintain the economic dynamism of the agricultural sector, promoting not only economic growth but also increases in productivity, the implementation of technology and innovation, food security, social inclusion, and the reduction of regional inequalities. The continuation of financial support, combined with risk management strategies and the diversification of credit modalities, helps ensure the resilience of the agricultural sector in Rondônia.

In this regard, this study contributes to the understanding of the dynamics of rural financing and default, providing inputs for future research and policies that may further improve the rural credit system in the state. The limitations of the analysis are related to the incomplete data provided by Banco da Amazônia, which affected the quality of the analysis. Furthermore, the reasons why borrowers are behind on their payments were not part of the scope of this study.

The main contribution of this study lies in revealing, based on official data, how rural credit policy has materialized in Rondônia during a period marked by crisis and economic recovery. By highlighting the low default rate, the regional concentration of contracts, and the distinctive role of Banco da Amazônia in financing with FNO resources, the article broadens the understanding of the dynamics of rural credit in the state and offers original insights for researchers, policymakers, and financial institutions. This

contribution is particularly relevant because the literature lacks recent and region-specific analyses on the subject, especially in the Amazonian context.

Thus, it is suggested that future studies conduct surveys with rural producers to analyze the reasons that led them to default. Despite its limitations, it is believed that this study provided relevant information for the discussion on the rural credit market.

References

- Araújo, P. F. C. D. (2011). *Política de crédito rural: reflexões sobre a experiência brasileira*. -- <https://repositorio.ipea.gov.br/entities/publication/6b8e08ad-364f-47b4-b086-c2403054fc93>.
- Araújo, W. V. de, Moraes, A. L. M. M., Souza, J. C. da S., Moreira, J. de A., Carvalho, R. R. D. de, & Monte, R. R. do (2020). Crédito rural: política e desempenho. In: J. E. R. Vieira Filho, & J. G. Guasques (Orgs.), *Uma jornada pelos contrastes do Brasil: cem anos do censo agropecuário*, 267-279. IPEA, IBGE. Doi: 10.38116/978-65-5635-011-0.
- Araújo, L. P., & Silva, R. C. R. da (2021). O patrimônio rural de afetação e a nova e paradoxal face do crédito rural. *Revista da Procuradoria-Geral do Banco Central*, 15(1), 134-148. -- <https://revistapgbc.bcb.gov.br/revista/article/view/1107/64>.
- Banco Central do Brasil (2024). *Matriz de dados do crédito rural - crédito concedido*. -- <https://www.bcb.gov.br/estabilidadefinanceira/micrrural>.
- Banco Central do Brasil (2024). *Crédito rural*. -- <https://www.bcb.gov.br/estabilidadefinanceira/creditorural>.
- Banco Central do Brasil (2024). *Glossário - Inadimplência*. -- <https://www.bcb.gov.br/meubc/glossario>.
- Banco Central do Brasil (2025). *Taxa básica de juros - histórico*. -- <https://www.bcb.gov.br/controleinflacao/historicotaxasjuros>.
- Banco da Amazônia (2023). *Plano estratégico 2023-2030*. -- https://www.bancoamazonia.com.br/index.php?option=com_edocman&view=document&layout=viewpdf&id=6104&documenturl=4d0530b3d32acc38679791a77b87c1dc.pdf&Itemid=0.
- Banco da Amazônia (2024). *Programação Financeira FNO 2024: Plano de Aplicação de Recursos Financeiros do Fundo Constitucional de Financiamento do Norte - FNO*. -- <https://www.bancoamazonia.com.br/component/edocman/plano-de-aplicacao-dos-recursos-financeiros-fno-2024/viewdocument/7994>.
- Banco do Brasil (2024). *Crédito rural do BB cresce 8,4% e atinge recorde em 2023*. <https://www.bb.com.br/pbb/pagina-inicial/imprensa/n/67775/credito-rural-do-bb-cresce-8-4-e-atinge-recorde-em-2023#/>.
- Barros, E. de S., Xavier, L. F., Pessoa, D. T., & Sobel, T. F. (2015). Endividamento agrícola: Quão comprometidos são os produtores do polo petrolina-juazeiro frente suas dívidas?. *Economia Aplicada*, 19(1), 171-200. Doi: 10.1590/1413-8050/ea128281.

- Benson, A., & Faguet, J.-P. (2022). Increasing Access to Formal Agricultural Credit: The Role of Rural Producer Organisations. *The Journal of Development Studies*, 59(1), 21-38. Doi: 10.1080/00220388.2022.2102899.
- Borges, M. J., & Parré, J. L. (2022). O impacto do crédito rural no produto agropecuário brasileiro. *Revista de Economia E Sociologia Rural*, 60(2). Doi: 10.1590/1806-9479.2021.230521.
- Brasil (2003). Ministério da Agricultura, Pecuária e Abastecimento. *Plano Agrícola e Pecuária - Safra 2003/2024*. -- <https://repositorio-dspace.agricultura.gov.br/bitstream/1/415/1/Plano%20Agr%c3%adcola%20e%20Pecu%c3%a1rio%202003-2004%20%281%29.pdf>.
- Brasil (2024). Ministério da Agricultura e Pecuária. *Plano Safra 2023/2024*. -- <https://www.gov.br/agricultura/pt-br/assuntos/politica-agricola/plano-safra/2023-2024/cartilha-plano-safra-2023-2024/>.
- Cavinato, N. R., & Capitani, D. H. D. (2023). Eficiência social das cooperativas de crédito rural no Brasil: uma análise sob a ótica regional. *Economia e Sociedade*, 32(2), 429-455. Doi: 10.1590/1982-3533.2023v32n2art08.
- Decreto n. 58.380, de 10 de maio de 1966 (1966, May 17). Aprova o Regulamento da Lei que institucionaliza o Crédito Rural. -- https://www.planalto.gov.br/ccivil_03/decreto/antigos/d58380.htm.
- De Lima, T. R., da Cruz Bastos, F., & dos Santos Gastão, M. (2025). Estratégias do Banco da Amazônia no apoio às micro e pequenas empresas Em Maués-Am. *Revista Foco*, 18(6), e8779-e8779. -- <https://ojs.focopublicacoes.com.br/foco/article/view/8779>.
- De Oliveira, S. V., De Oliveira, L. B., & Paetzhold Pauli, R. I. (2018). Disponibilidade e acesso ao crédito rural: a percepção dos produtores rurais do município de São Pedro das Missões (RS). *SINERGIA - Revista Do Instituto De Ciências Econômicas, Administrativas e Contábeis*, 22(1), 51-64. Doi: 10.17648/sinergia-2236-7608-v22n1-7748.
- Empresa Brasileira de Pesquisa Agropecuária (2024). *Informativo agropecuário de Rondônia: fevereiro/2024*. -- <https://www.embrapa.br/busca-de-publicacoes/-/publicacao/1162185/informativo-agropecuário-de-rondonia-n-13-fevereiro2024>.
- Farias, R. C. M., Filgueiras, G. C., Almeida, O. T. de, & Mathis, A. (2018). Políticas públicas de crédito rural para cadeia produtiva da pesca e aquicultura no Brasil e região Norte, em período recente. *Papers do NAEA*, 1(1). Doi: 10.18542/papersnae.v1i1.11131.
- Instituto Brasileiro de Geografia e Estatística (2017). *Censo Agropecuário 2017*. -- https://censoagro2017.ibge.gov.br/templates/censo_agro/resultadosagro/estabelecimentos.html?localidade=11.
- Gasques, J. G., Bacchi, M. R. P., & Bastos, E. T. (2017). Impactos do crédito rural sobre variáveis do agronegócio. *Revista de Política Agrícola*, 26(4), 132-140. -- <https://seer.sede.embrapa.br/index.php/RPA/article/view/1315/1082>.
- Hirschman, A. O. (1958). *The strategy of economic development*. New Haven: Yale University Press.
- Kvitschal, G. A. E., de Melo, R. M., Zaccaron, V. J., & Kvitschal, M. V. (2016). O Crédito agrícola e a inadimplência no sistema cooperado: um estudo de caso na Cooperhort. *Revista Visão: Gestão Organizacional*, 4(1), 36-48. Doi: 10.33362/visao.v4i1.805.

- Lei n. 4.829, de 5 de novembro de 1965 (1965, November 11). Institucionaliza o crédito rural. *Diário Oficial da União*. Presidência da República. -- https://www.planalto.gov.br/ccivil_03/leis/14829.htm.
- Lima, A. C. da C., & Simões, R.F. (2010). Teorias clássicas do desenvolvimento regional e suas implicações de política econômica: o caso do Brasil. *RDE – Revista de Desenvolvimento Econômico*, 12(21). -- <https://revistas.unifacs.br/index.php/rde/article/view/878/940>.
- Lima, L. A. D. (2016). *Fundo Constitucional de Financiamento do Norte-FNO: evolução dos programas de crédito na região centro sul do Estado de Rondônia-Brasil*. -- <https://core.ac.uk/download/pdf/294853479.pdf>.
- Lu, Z., Li, H., & Wu, J. (2024). Exploring the impact of financial literacy on predicting credit default among farmers: An analysis using a hybrid machine learning model. *Borsa Istanbul Review*, 24(2), 352-362. Doi: 10.1016/j.bir.2024.01.006.
- Medina-Olivares, V., Calabrese, R., Dong, Y., & Shi, B. (2022). Spatial dependence in microfinance credit default. *International Journal of Forecasting*, 38(3), 1071-1085. Doi: 10.1016/j.ijforecast.2021.05.009.
- Myrdal, G. (1960). *Teoria econômica e regiões subdesenvolvidas*. Tradução de: Ewaldo Corrêa. Rio de Janeiro: Instituto Superior de Estudos Econômicos. -- <https://institutomyrdal.wordpress.com/wp-content/uploads/2015/03/teoria-econoc3b4mica-das-regic3b5es-subdesenvolvidas.pdf>.
- Oliveira, C. A. D., & Pereira, R. M. (2025). Inadimplência no crédito rural no Brasil: uma avaliação econométrica do impacto dos fatores macroeconômicos. *Revista de Economia e Sociologia Rural*, 63, e292119. -- <https://www.scielo.br/j/resr/a/mWy5VKBLlgN8KrJN3WNsvPn/?format=html&lang=pt>.
- Resolução CMN n. 4.883 de 23/12/2020 (2020, December 24). Dispõe sobre a consolidação dos dispositivos inseridos nos Capítulos 1, 2 e 3 do Manual de Crédito Rural (MCR). *Diário Oficial da União*. -- <https://www.bcb.gov.br/estabilidadefinanceira/exibenormativo?tipo=Resolu%C3%A7%C3%A3o%20CMN&numero=4883>.
- Rocha, G. A. P., Ozaki, V. A., & Miquelluti, D. L. (2022). Oferta de crédito rural livre: Modelo VAR. *Revista de Política Agrícola*, 31(3), 84. -- <https://seer.sede.embrapa.br/index.php/RPA/article/view/1760>.
- Marcolan, A. L., Teixeira, A. L., & Evangelista, F. J. (2018). *Boletim Agropecuário de Rondônia: evolução da produção agropecuária: fevereiro/2018*. Embrapa. -- <https://ainfo.cnptia.embrapa.br/digital/bitstream/item/200079/1/Boletim-Agropecuario-FEV-2018.pdf>.
- Sales, F. M. G., Lima, P. V. P. S., Khan, A. S., & Santos, J. A. N dos (2006). *Fatores determinantes da inadimplência do crédito rural nas áreas de concentração de fruteiras no Estado do Ceará* [Conference Presentation]. Congresso da Sociedade Brasileira de Economia, Administração e Sociologia Rural. SOBER, Fortaleza. -- https://repositorio.ufc.br/bitstream/riufc/5110/1/2006_eve_fmgsales.pdf.
- Serasa (2023). *Inadimplência atinge 28% dos produtores rurais no país*. -- <https://www.serasaexperian.com.br/sala-de-imprensa/analise-de-dados/inadimplencia-atinge-28-dos-produtores-rurais-no-pais-revela-serasa-experian/>.

- Silva, C. A. G. da, & Ferreira, L. (2016). Produtividade total dos fatores no crescimento da agropecuária brasileira. *Revista de Política Agrícola*, 25(3), 4-15. -- <https://seer.sede.embrapa.br/index.php/RPA/article/view/1151/1009>.
- Stiglitz, J. E., & Weiss, A. (1981). Credit Rationing in Markets with Imperfect Information. *The American Economic Review*, 71(3), 393-410. -- <http://www.jstor.org/stable/1802787>.

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