

Impacts of Rural Credit on Financial Products Consumption in Brazil

1. Introduction

The National System of Rural Credit is the most traditional instrument of agricultural politics in Brazil. It's a set of regulations and programs defining sources of capital and conditions for loans destined to the farming activities. The federal government defines amounts of capital in specific programs, interests rates, limits for each contract, types of activities and products to be financed, directing the farming sector in accordance with the objectives of the government, as to minimize the fluctuations of supplying and prices in the agricultural products markets or guaranteeing satisfactory levels of supplying in some products. In this way, resources with subsidized rates of interests are offered, having as main source a definite percentage of the deposits of each financial institution.

The rural credit represents a product of low attractiveness for banks in Brazil, due to small yield in the operations, rigidity in the interests rates, inherent high risk to the farming activities, high costs of contracting and accompanying of the financed cultures. With these conditions, private banks prefer to concentrate their loans in few operations with cooperatives and industries. Thus, the participation of the federal banks reached 65,81% of the rural credit loaned in 1998 (Bacen, 1999). The direct attendance to the agricultural producers finishes being carried through for public banks (state and federal).

Loaning rural credit means to offer resources that have becoming more and more scarce in the Brazilian financial system, with interest rates lower than others credit lines available. This situation increases the power of negotiation of banks when attending rural producers, always demanding these resources for their activities. Usually, one of the results of this negotiation is the possibility of selling other financial products and services to the producers when rural credit loans are approved.

In this way, these conditions can create a relationship between the public banks and rural producers slightly different to those present for others customers. Besides the risk involved in the rural credit concession itself, this situation involves others risks, as the dependence of financial products consumption by rural producers to rural credit concession. Another risk involved is a negative reaction from rural producer, who can feel himself forced to consume some products when he gets a rural credit loan. In this sense, it's important to evaluate the relationship with rural producers and the dimension of risks involved, in order to subsidize public banks for designing of rural credit strategies for the future.

Thus, the relationship of public banks with rural producers can generate the following questions: (1) Is there any correlation between the amount of resources of rural credit contracted and the banking consumption of others products and services? (2) Are there significant differences between rural producers and others consumers in the level of financial products consumption? (3) What are the criteria used for public banks to select customers to concede rural credit loans?

Answering these questions can contribute to evaluate the rural credit takers yield, considering their whole banking consumption and the risks involved in their relationship, in order to subsidize strategies of attendance to the rural producers by public banks.

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2. Objectives

The objectives of this study are to analyze the relationship between public banks and rural producers, specifically the process of conceding rural credit loans and its impacts in the financial products consumption in four agencies of the same bank in the State of São Paulo. The banking consumption parameters to be analyzed will be the wing balance of rural credit, financial patrimony, other loans, amount of contracted insurances and net profits.

That analysis aims at the identification of: (1) correlation between the amounts of rural credit loaned and the consumption of others financial products by rural producers; (2) significant difference between the consumption of financial products by rural producers and the others customers and (3) the criteria used for the bank for rural credit analysis and concession, to select the rural producer to receive the rural credit loan.

3. Methodology

To reach the objectives above, a public bank with a significant market share of rural credit was chosen as analysis object of a case study. The financial products consumption of rural producers and others customers had been analyzed through statistical tools, and a questionnaire was applied to rural credit managers and analysts to identify the process of analysis and concession of rural credit.

The chosen banking agencies had been four units located in the cities of Bauru, Sao Jose do Rio Preto, Araçatuba and Jales. In 1998, those cities added an urban population of 821.290 people, 34.497 people living in rural zones, 1,1 million dollar in total of deposits, 0,9 million dollars in credit operations. The rural credit operations of these markets were divided in 8.164,43 dollars in agriculture and 3.271,53 dollars in cattle breeding (SEADE, 1999). These contracts represents 9.5% of the total rural credit of the State of Sao Paulo, where it had been loaned 120,4 million dollars in all the financial institutions (BANCO CENTRAL DO BRASIL, 1999).

It can be detached that despite the significant participation in the rural credit, those cities present low percentage of rural population, indicating an economic diversification. Thus, one guarantees that the sample of non-producers customers is representative and with differentiated profile

Those agencies have in common high positions at the internal ranking of resources loaned in rural credit per unit, the existence of more than 100 rural producers and also significant percentage participation of others customers (who aren't rural producers). Therefore, these agencies were considered representative samples for this study. The following cases had been taken for the analysis: 754 agricultural producers (total amount with positive wing balance of rural credit) and 650 others customers (random sample with size similar to the amount of rural producers).

The customers in study were segmented by the levels of income or financial patrimony and identified by A until E decreasing orderly by this criteria and N for new customers. The analysis of this segmentation indicated that the sum A + B segments represents 34% of rural producers and 20% in others customers, while the sum C + D + E represents 65% of rural producers and 75% in others customers. These data indicate a superior economic profile of rural producers when compared to the others customers, but in general it's a group with predominance of low and medium income rural producers and others customers.

The following variables related to financial products consumption had been chosen, relative to the month of July/99: rural credit (wing average balance); financial patrimony (sum of deposits, funds and savings); others loans (sum of the wing average balance of others kinds of credit lines); profit: balance between revenues and costs; insurances: amount of contracted insurances, any modality. The used statistical tools had been: analysis of correlation between each variable and rural credit;

comparison of averages of each parameter through non-parametric tests, between rural producers and others customers;

In order to analyze the criteria used for rural credit concession, a descriptive analysis had been made by the application of a questionnaire to the managers and analysts participants in rural credit analysis and concession. That survey had been made for a sample of 60 employees of the bank, responsible for the rural credit sector in agencies at the region, including the units analyzed with respect to the financial product consumption. The questionnaire included the following items, through subjective questions: perspectives for resources availability for rural credit; level of demand attended by the bank, types of rural producer with demand partially satisfied, criteria for analysis and concession of rural credit, considering activities and characteristics of rural producers.

4. Literature review

4.1. Rural Credit and farming financing

According to Banco Central do Brasil (1998), the rural credit objectives are to stimulate the agricultural investments made by the producers or the cooperatives; to favor the expenditure, the production and the commercialization of farming products; to fortify the agricultural sector, mainly as for small and medium producers and to stimulate the introduction of rational methods in the production system. By the same source, the purposes of the rural credit are: (1) to support the normal expenditures of each productive cycle; (2) investment in goods or services whose exploitation if extends for some productive cycles; (3) commercialization of the production.

Santiago & Silva (1999) present a historic description of the Brazilian politics of rural credit, detaching that it started to expand in 1967, crossed the decade of 70 with great availability of resources and widely subsidized and in the Eighties it initiated a phase of adjustments, with reduction of the available resources and rise of the interest rates, trend that remains until the present. Moreover, the frequent alterations in the rules and the readiesses of the rural credit, mainly after economic stabilization plans, associated to the low performance of the agricultural income, mainly in the Nineties, had produced a growth of the indebtedness and the insolvency of the rural producers.

Shirota (1988) presents the main sources of quarrel on the effectiveness of the rural credit in the farming sector development, detaching the transaction costs in the operations and the dichotomy between institutional credit and not-institutional credit. In Brazil, the subjects most relevant are: effectiveness of the politics, related with the substitution possibilities between the resources proceeding from rural credit and others forms of agriculture financing; implicit subsidy in the interests rates; distribution of the credit, since the loans become a kind of benefits distribution.

According to Tavares (1999), the insolvency crisis occurred in 1995 limited the possibilities of access to the credit and generated pressures adds on the income of the productive units integrated to the circuit of production financing. The availability of resources for the expenditure, at constant prices of December/96, declined strongly in 1995 - less 46% in relation to 1994 – remaining itself constant in the following year. With that an increase of the participation of external sources occurred, since the called agricultural financing direct, with caption of resources of the exterior, of US\$ 1 billion in 1995 for US\$ 4.6 billion in 1996. However, only a parcel of those resources effectively was transferred to agriculture, and with prohibitive interests rates (annual 15% more currency exchange variation).

As Santiago & Silva (1999) the agricultural politics defined by the Federal Government in the last years discloses criteria of selectivity in the use of the different instruments. As for the rural credit,

the resources with favored interests rates have been directed to the agriculture of low income, through special programs. For the producers in general, the preferential taxes had become accessible within certain limits of financing and in sums below of financing necessities of the sector. Thus, called commercial agriculture has been forced to look for alternative financing sources. In that direction, caption and application of external resources are distinguished it, regulated for Resolution BACEN nº 2.148, of April of 1995, the use of Rural Product Note (CPR), contracts of put options and financing right-handers to the food and insume industries, on the basis of the US dollars currency exchange variation.

Thus, in the analysis of the rural credit concession, it's important to know that it's a kind of credit with scarce resources, that already do not take care of to the total demand of many producers, given the readiness established by the Federal Government. In that way, that line more would be adjusted the small and medium scale producers involved with products of low integration in agribusiness systems, that do not have access to other alternatives of financing, as external resources or the direct financing of the food or insumes industry.

4.2. Financial products consumption

Toledo (1988) identifies that the competition in the banking sector occurs in two markets, of resources and of loans. For this author, the nature of the components of the two markets is significantly different, exists strong interaction between them and the particular or institutional customers can move his position in one for another market, depending on his economic situation or conjuncture factors. That alternation of situations is crucial for the banks, because it will only obtain to attract and to conserve the customer who brings it capital to the measure that obtains to satisfy to the necessities of the borrower of capitals.

With relation to the consumer behavior for banking products, the banks must know the attitudes of the consumer in relation to the money, the financial institution and the banking services. VULPIAN (1971) identified that the consumer can assume an attitude of looking for to accumulate good of any species or to value only the products that the money allows acquiring and saves to take care of the possible future necessities. His attitude in relation to the bank depends on his banking products knowledge and his economic and social conditions, as income, occupation, instruction and age. Other factors to be considered are the reasons to choose a bank, as the proximity of the agency, the attendance for the employees, the recommendation of a friend, the rapidity in the release of the operations and the booty possibility in some places. Finally, the image of the bank to the public must be known.

With respect to the attitude of the consumers in relation to the banking products, the research already carried through had looked for to identify the perceived image, the profiles of customers more receptive to determined products, the influence of the force of sale, aesthetic and functional aspects of the agencies, the relation of the products image with some necessities of the customers, as liquidity, localization, security, solidity and rapidity in the transactions (Toledo, 1988).

The rural producers, still that being people, present characteristics of companies, because they are tied the determined economic activity and they must generate results to pay its debts. Thus, the attendance of the banks for those customers must include strategies adjusted for companies. According to McTavish (1991), the sales in the financial sector must be seen as the establishment of a lucrative mutual communication between the financial institution and its market. That lucrative communication demands that the manager of accounts and the team of sales of the bank exert multiple functions, but always in a perspective of sales without pressure. The final yield of the efforts

of the manager of accounts inhabits in the force of the bows of long period that he constructed between the bank and its customers.

5. Results

5.1. Correlation analysis for rural credit and banking consumption

In Table 1 are presented the results of the correlation analysis between the indicators of banking consumption, for agricultural producers and others customers. For the rural producers, weak correlation of the rural credit with the others banking consumption indicators is observed, with coefficients varying from 0,147 to 0,214. Between the others indicators the only one expressive correlation coefficient appears between "other loans" and "profits", for rural producers (0,858) and others customers (0,908). These values indicate that fees and spreads in loans have significant and positive impacts on net result. it those data one perceives that apparently the loaned volume of gricultural rural credit does not favor the increase of other pointers, as the " patrimony " at least is what if it could conclude observing only that table.

Table 1 – Correlation analysis for rural producers and others customers

parameter	rural credit	patrimony	others loans	profits
Rural producers				
rural credit	1			
patrimony	0,175383401	1		
others loans	0,214866469	-0,091988795	1	
profits	0,147933431	0,041434206	0,858075681	1
insurance	0,181730641	0,024116119	0,005702216	0,011510826
Others customers				
patrimony	-	1		
others loans	-	-0,043880869	1	
profits	-	0,206318742	0,908230076	1
insurance	-	0,062988915	0,254098243	0,34375927

5.2. Comparison of rural producers and others customers

Through descriptive statistics analysis, it had been calculated the averages, the error standard, medium, mode and standard deviation of the parameters of financial products consumption of the rural producers and the customers. Thus, one identified that the averages of all the pointers of the rural producers are superior to the ones of customers, being 181.83% greater for the financial patrimony, 412.61% for the other loans, 211.37% for result and 325.61% for the insurances.

Tests t for independent samples had been effected (according to NEWBOLD, 1995) with results presented in Table 2, indicating that the joined averages are different, with 95% of trustworthiness. Thus, strong evidences exist of that the rural producers own a profile of banking consumption different of that presented by the others customers. Thus, rural credit contracting itself provokes a differentiated consumption of financial products, no matter the amount loaned. This could be the reason why this characteristic was not disclosed in the correlation analysis, since that statistical tool evaluates how the amounts of rural credit varies in comparison with others products. Probably this situations occurs because the amounts loaned of rural credit do not take care of the real demands, not being therefore a trustworthy pointer of the credit needs the customers, given the restrictive rules

of the product. Another determinant for the difference identified can be the increase of financial products contracting at the moment of the rural credit concession.

Table 2 – T-test for independent samples of rural producers and others customers

Equal Variance (EV) assumption		t-test for equality of means				t-test for equality of means		
		t	df	Sig. 2-tailed	Mean difference	Std error difference	95% confidence interval of the mean	
							Lower	Upper
Patrimony	EV assumed	4,499	1402	,000	4832,92	1074,32	2725,46	6940,37
	EV not assumed	4,705	1137,335	,000	4832,92	1027,22	2817,46	6848,38
Others loans	EV assumed	7,238	1402	,000	1637,58	226,26	1193,74	2081,43
	EV not assumed	7,698	911,014	,000	1637,58	212,73	1220,08	2055,08
Net profit	EV assumed	5,300	1402	,000	59,69	7,71E-02	1,36	1,66
	EV not assumed	5,628	932,959	,000	59,69	7,29E-02	1,37	1,66
Insurance	EV assumed	19,632	1402	,000	1,51	11,26	37,60	81,78
	EV not assumed	20,766	984,703	,000	1,51	10,61	38,87	80,50

5.3. Rural credit concession criteria

The answers to the questionnaire had presented the following results: (1) future perspectives of availability of resources: to decrease slowly (22%), to remain constant and to grow moderately (16% each option); (2) attendance of the demand of rural credit: majority of the producers with enough resources (85%); (3) insufficient attendance of the demand of rural credit: producers of large scale (63.3%), producers of medium scale (21.7%); (4) priority for the concession of rural credit for scale of the producer: producers of small scale in first place (48.3%), producers of medium scale in first place (38.3%); (5) criteria to approve loans of rural credit: tradition in the bank (53.3%), financed activity (26.7%), consumption of others banking products (15%).

Those results indicate a perception of the responsible ones for the rural credit of that the producers have its satisfied necessities of credit and that they have tradition in the bank. The great prominence of the tradition can disclose a characteristic of personal relationship and subjective analysis of the credit order. The priority for the small producers is in accordance with the real profile of the customers.

6. Conclusions

For the situation in analysis, it's possible to conclude that:

(1) There is no correlation between the amount loaned in rural credit and the others financial product consumption. The strongest positive correlation exists between others loans and profits, by their contribution in fees and spreads.

(2) Contracting rural credit itself provokes huge increase in the consumption of others banking products, generating bigger financial patrimony, others loans, net profits and insurance. This strategy is a way to increase the rural producer yield when conceding rural credit, and it seems that the bank have been very successful in this intention. However this is a risky situation, since the banking consumption is strictly tied with the concession of rural credit, for the agencies in study. As the availability of rural credit presents reduction trend, the profits to be generated by rural producers in the future become uncertain. Moreover, the purchase of banking products at the moment of rural credit concession can be faced as unfair for some producers, who can be potential deserters of the bank, if they have chance.

(3) The main criteria for rural credit concession are to drive the resources to small scale producers with long term tradition in relationship with the bank. The employees responsible for rural credit have the perception that small scale producers are satisfied with the amounts of loans received.

7. References

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