



*Original Contribution*

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## CREDIT RATIONING IN AGRICULTURAL CREDIT MARKETS IN BULGARIA

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### ABSTRACT

Agricultural sector in Bulgaria faces severe credit constraints and limited access to credit market. As a result we observe small amount of overall bank credit advanced to farmers. Bank credit is the main source of external financing for farmers, government also intervenes on financial markets in an attempt to increase financial funds to agriculture and to improve farmers' access to credit market. Nevertheless, farmers are a subject to high bank requirements in respect to collateral value, financial performance and co-finance of investment projects, which results in smaller loans or rejection for credit at all. High banks' requirements reflect restrictive credit policy to agriculture and turn into effective mechanisms of credit rationing. Agricultural credit markets are characterized by small size of the loans and low overall credit amount at a price determined by lenders, as the latter use non-price mechanisms to constrain farmers' access to credit. Commercial banks prefer to allocate funds to more profitable and less risky economic sectors. Various factors could be taken into consideration to explain credit rationing in agricultural credit markets; some of them consider traditional information problems, and others emerge from sector specific characteristics.

**KEY WORDS:** farm credit, credit access, bank credit policy, collateral, credit diversion, state support

### INTRODUCTION

Lending institutions disburse small amount of credit to agriculture during the last years. We can observe an annual increase of bank credit for farmers, but the total amount remains low. Two reasons could be pointed to explain the small amount of farm credit. First, it could result from decreasing demand and therefore disbursed amount of credit would be a response to farmers' low demand. Second, low amount of credit results from the supply-side and indicates a restrictive bank credit policy to agriculture. In case of high profitability and capital accumulation in farms we can assume that low credit amount reflects the demanded credit. But profit margin analysis shows bad financial performance of the farms as farmers hardly meet their production needs. Moreover,

farmers have limited sources of external financing – except bank credit, loans disbursed by other lending institutions represent a small share on credit market, and the small scale of the farms strongly restricts financing from financial markets. On the other hand, banks are not subject to any statutory restrictions in respect to the amount of total funds to be

advanced, e.g., credit ceilings. In such case limited credit access takes the form of credit rationing and reflects restrictive bank credit policy to agriculture. Commercial banks prefer to allocate funds to more profitable and less risky economic sectors instead of agriculture. The aim of this paper is to summarize some of the most important factors of credit rationing, as some sector-specific factors will be pointed out. Attention will be paid to farmers' incentive problems, too.

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### CREDIT RATIONING FACTORS

In the economic theory it is wide-spread that the information asymmetry, incentive and

enforcement problems to a great extent explain the presence of credit rationing (1). However, other surveys (2) show that mainly due to the specific characteristics of the credit markets, especially in emerging markets, only adverse selection and moral hazard are not enough to explain credit rationing in practice. This assumption is valid especially for rural credit markets in emerging countries where credit rationing resulted from various specific factors. The case of Bulgaria confirms that information problems are only one of the factors for restricted access to credit markets, especially in rural credit market.

From the literature it is evident that rural credit rationing relates to limited credit access for farmers at a price stated by the lenders. Credit rationing shows mainly in two forms – farmers receive credit, but to a less extent or they are rejected for a loan at all. Latruff and Fraser (2002)(3) stated that rural credit rationing occurs if some farmers have limited access to credit or individuals get a loan, but some are restricted in the amount they can borrow. Credit rationing is divided to external, in cases when farmers apply for a loan, but do not get it; and internal rationing, when farmers due to a various reasons do not apply for a loan, although they wish to. Further distinguishing of credit rationing is considering a potential borrower as credit-rationed if his private demand for credit persistently exceeds the loan amount offered by the lender (4).

Definitions of rural credit rationing follow the common definition for credit rationing on financial markets. Farmers have limited access to credit in cases when their credit demand is partially or totally unsatisfied, although they agree to meet higher interest payments. Limiting the amount of credit takes the form of a non-price constraint, as the credit rationing theory excludes the possibility of market equilibrium of credit supply and demand by the price. Commercial banks ration farm credit at a price determined by them, which is not the market price, but meets their goals for risk and profitability.

Information asymmetry pointed as a main reason for credit rationing in most credit markets affects rationing on rural credit market in Bulgaria too. Lending institutions apply various measures to overcome the information asymmetry in rural markets, including requirements for detailed financial data about capital adequacy, liquidity, leverage, credit history, etc. One can expect that the higher farm profit is, the better access to credit market

a farmer will have. But in many cases the adequacy of financial information is questionable. In practice we observe negative correlation between farm profitability and banks' willingness to advance loans. The reason is that farmers keep an incomplete financial reporting system or its lack at all. This is favored by some low regulations concerning the incomes of agricultural producers in Bulgaria. According to Law on Personal Income Tax, art.13 para.3, incomes from non-processed agricultural production are considered non-taxable incomes. Therefore, farmers are not obliged to keep accounting for tax purposes. The impossibility of proper tracking of farm incomes, expenditures and financial results from farm activity increases lenders' information disadvantage. Our survey shows that from 108 farmers 19% keep accounting in their farms, 56% keep partial financial reporting and 19% do not keep any accounting. That leads to under- or overestimation of farms financial results and consequently questions farm financial stability. Rationed farmers (in the same survey) have average profitability of 35%, which is higher compared to the profitability of non-rationed farmers of 18%. In such way government policy of keeping and gaining capital in farms in favor of farm producers becomes a prerequisite for credit rationing. Lending institutions try to overcome incomplete data with ready-to-fill financial forms for farmers, often filled with credit officers' help. Moreover, banks differentiate rural credit risk through applying different interest rates, resulting in higher interest payments. Although such activities increase information advantage of the creditors, it is difficult to assess individual risk aversion of farmers. By this reason some authors (5) consider credit rationing always necessary reaction of the creditors.

Another factor that increases asymmetric information is farmers' impossibility, in many cases, to present clearly and confidently their conception and business-plan about the investment and credit use before lenders (6).

Among the specific factors of imperfect markets in Bulgaria, collateral problem can not be explained by information asymmetry theory. Insufficient collateral continue to be the most often reason for lenders to deny or decrease the amount of rural credit. The collateral is an instrument widely applied from Bulgarian banks in an attempt to overcome the lack of trust towards farmers. Size of the

collateral is determined according to credit risk, however the higher the collateral becomes, the bigger is the possibility of denying credit. The minimum amount of the collateral required by Bulgarian banks is 120% to 140% of total value of the investment. In such way collateral size is used as an effective mechanism of credit rationing. Empirical surveys show that ensuring appropriate collateral is a significant issue for farmers to receive credit and limit credit amount (7, 8). More severe collateral problem reveals in small-scale farms, where the value of tangible assets is not sufficient to secure the loan.

Another market-specific factor for credit rationing relates to the negative effects of the bank crisis in 1996-1997 resulted in aspiration for better securing of the loans (9). Moreover, Central Bank of Bulgaria does not act as a lender of last resort to commercial banks by the regulations of Currency board. Banks' bad experience and limited sources of external financing imposed higher cautiousness in lending, especially in farm lending. That resulted in imposing stronger guarantees to cover credit risk and allocation of credit to more profitable sectors of economy.

Bad reputation of agricultural sector also favors credit rationing. Lender institutions traditionally consider rural credit as a riskier investment. Together with previous bad loans and slow restructuring of the agricultural sector farmers are considered non-reliable applicants and therefore having bad credit reputation.

In the above-mentioned cases of credit rationing, reducing the amount of credit or its denial represents rationing initiated by the lending institutions. Farmers apply for credit as agree to meet banks requirements. In many cases farmers do not apply for credit, although they need external financing. Having in mind the low profitability in agriculture and low level of equity it is obvious that farmers use informal sources of financing. Practice shows that farmers could decide not to apply for formal credit although they do not have sufficient capital for an investment project and are creditable at the same time. Here shows the incentive problem that could be assigned to the above-mentioned second form of credit rationing – internal rationing.

Internal credit rationing in agriculture could be differentiated in several directions. Credit demand is determined not only by loan market price, but the additional price paid by the farmers in reference to initial information and applying for the loan. High transaction costs,

in some cases, increases the total cost of the loan to the extent that the investment is not profitable, even when interest rates are acceptable for the farmers. As the banks apply fixed fees for loans, the transaction costs are not dependant on the loan size and are not distributed proportionally to the loan size. The small-scale farmers are the most affected, as they pay a highest price as a share of the loan size. Here, credit rationing takes the form of a smaller size of the loan a farmer can borrow, in case of not paying transaction costs. It is known that in rural areas transaction cost could reach higher values (due to insufficient information, small-size credit demand, poor financial knowledge of the farmers, etc.).

Collateral problem affects internal credit rationing too. The impossibility to meet banks' requirements related to loan securing additionally discourage farmers to choose not to apply for a bank loan. Along with that, significant number of farmers does not apply for loans because of a bad attitude of bank officers to them. When farmers are creditable and solvent applicants, but due to incentive problems have zero credit demand or use informal sources of credit their opportunities for development and investments remain limited.

Some of the factors of rural credit rationing can be derived from the specific characteristics of agriculture itself. Farm loans are not attractive for the banks and can be denied or advanced in smaller size because of the long-run turnover of the capital in agriculture compared to other economic sectors. Banks are traditionally specialized in short-turn operations, and in Bulgaria all banks are universal intermediaries. That means they do not have traditions in farm lending and good lending practices were needed to be established during transition period. Short-turn pattern of bank loans limits the development of mortgage financing that is barely practiced in agriculture. In cases when banks advance long-terms loans, land is not a preferable asset to secure the investment. The reason is the underdeveloped land market in Bulgaria. Additionally, agriculture is characterized by low profitability and decrease in value added in the sector. Low incomes in agriculture increase credit rationing at least in two directions. Lower farm incomes correspond to higher probability of not repaying the loan, therefore to a higher credit risk for the banks. Another well-known problem arising from low profitability is credit diversion. Diverting credit funds to

consumption and family needs is a problem revealing more severe in small-scale farms (10). The probability of undesired credit use increases in case of unexpectedly arisen needs that can not be met by farmer's family. Credit diversion is expected to appear to a bigger extent in semi-market (semi-persistence) farms. As they do not operate as strongly market oriented farms, only a part of the production is directed to the market. It is obvious that in such case investment and consumption decisions are not taken independently. We can find evidence in practice of credit diversion in two forms. Often to secure investment needs, farmers demand for consumer loans due to a simpler loan procedure instead to apply for investment loans. And vice versa, farmers may use funds from credit lines or farm credit cards to meet family needs in short-term.

Bulgarian agriculture is characterizes by many small-scale farms, most of them working at subsistence base. Consequently, farm credit demand is small with small size of the loans. From creditors' point of view, the smaller loans they lend, the higher operative costs related to the loan they have, and the less attractive is that financing.

Consequences from credit rationing could be summarizes shortly as follows: low productivity and efficiency in agriculture, gross value added continue its downturn slope; slow and untimely technological change in small farms, as they operate mainly with hand labor; low level of investments and capital acquisition; and slow development of agriculture – a strategic sector of Bulgarian economy .

## STATE SUPPORT

In view of overcoming the negative effect of credit rationing in Bulgaria, government intervenes in rural credit market applying state policy of financial support to agriculture. State support takes the forms of long and short term loans, submitted directly to farmer; refinancing bank loans; and subsidies.

Subsidies have the biggest share of overall government support and are directed to increase farmers' profit, respectively incomes, and to contribute to increase farmers' prosperity. While subsidies distort markets and are an example of undesired direct intervention in financial markets, they were an integral part of restructuring process during transition period till now. In reference to credit rationing

subsidies show positive effect on bank lending as they are considered implicit government quarantines for farmers. They decrease cost of production and allow farmers to benefit from the difference between production cost and market price. At the same time subsidies are paid to a target group of farmers and increase only their creditability. Farmers that finance their production with own capital and bank loans are not competitive to subsidized farmers. By this reason subsidies actually increase, instead of decrease inequality between farmers.

Refinancing bank loans for agriculture is aimed at increasing bank willingness to lend to farmers by establishing strong relations between them. The additional funds that government agencies transfer to banks are supposed to secure farm lending without engaging bank recourses. In practice banks advance credit to agriculture only to the extent they are financed. Explanation can be found in several directions. Interest rate on refinanced loans is fixed and lower than the market rate and is distributed between banks and the government agencies. At the same time banks face the whole credit risk of none paying the obligation. The credit risk of the refinanced loans is the same as the risk inherent in farm loans disbursed with bank funds. Lower profitability of the refinances loans, however, does not correspond to their level of credit risk. Moreover, the liquidity effect of refinanced loans takes effect only when the government agency transfers funds to banks before disbursing the loan. In many cases government agency delays refinancing that results in engaging bank funds and renegotiating the loan contracts.

Along with refinancing bank loans, government agencies perform as lending institutions and allocate financial funds to agriculture. Funds are advanced mainly as long-run loans at under-the-market price to target the low level of investments in agriculture. Like subsidies, the funds for loans are budgetary funds and can reach few farmers. Moreover, loans are allocated to the most profitable and creditable farmers, which is not the most needed. In such way government policy oversteps the limits of the social pattern and unnecessary takes functions of lending institution. In this way government increases the competitiveness of rich and creditable farmers, which use loans at lower price.

Credit rationing is inherent not only to bank lending, but to state financial support too.

While commercial banks maximize profits, government agencies limit the amount of credit due budget constraints. Credit rationing on bank credit, otherwise, represents restrictive credit policy and could be influenced by different mechanisms. Farmers face collateral problems when apply for state loans as government agencies also have high requirements of 120% to farmers to secure the loans. Collateral problem in Bulgaria is addressed by foreign surveys, as Swinnen and Gow (11) back in 1999 indicated that namely the lack of collateral constrains subsidy effect on agriculture. Credit rationing in government support is another indicator that financial funds should be allocated efficiently and to well defined groups of farmers.

## CONCLUSIONS

Agricultural credit market in Bulgaria is characterized by overall small amount of bank credit and limited access to credit. Banks respond to higher information disadvantage, credit risk and specific factors with stronger requirements for farmers, taking the form of credit rationing. As a consequence in many cases farmers are required to secure loans with bigger collateral compared to other economic sectors. Although asymmetric information is not decisive for credit access in Bulgaria, we consider credit rationing inherent for rural market due to the ongoing trends of low agricultural profitability and insufficient equity for reinvesting. Such tendencies along with higher risk considered for agriculture predetermine credit rationing in rural market to a greater extent.

Banks consider farm activities with higher risk and smaller returns compared to other sectors of the economy. The main development problems are low profitability and small scale of farming followed from ineffective and slow restructure of agriculture during transition period. Hence, all government policies and measures directing to overcome market imperfections should address namely those factors in order to achieve improved credit access and to influence restrictive bank credit policy. The evidence from practice shows that government policy applies measures, which target namely the consequences, but not the reasons for credit rationing. Subsidies do not address low profitability or collateral problem, which limits their positive effect on credit rationing.

The policy of refinancing commercial banks have as a result increased financial flows to agriculture, but the liquidity effect does not achieve the main goal of increasing the total amount of credit to agriculture. Moreover, refinanced loans do engage financial resources of the banks due to provision requirements. Although the policy of refinancing has positive effect on credit markets it does not address the most severe credit rationing problems too.

State financial support increases credit to agriculture to the extent of planned government funds without influencing credit risk. By that reason the policy fails to achieve the goal to increase the total volume of bank credit to agriculture.

As credit rationing on government loans can not be overcome or reduced significantly, the role of state support to improve credit access should be turned to indirect intervention as credit guarantees, addressing credit risk. Government could help to overcome incentive problem and to reduce internal rationing. Appropriate form would be giving financial consultations and improving financial and managerial knowledge to farmers (12).

Reducing credit rationing will contribute to free flowing of capital in agriculture and will improve economic environment for farmers to operate. Improving credit access has a positive effect on farm profitability, although that might not be the poorest of them. Land market also will benefit from reducing credit rationing as will increase land purchasing and land lease. Overall improving credit access leads to a better allocation of the resources in the economy at all.

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