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# Financing for Agriculture: The Role and Impact of the Guarantee Schemes

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## Summary

Agriculture, like all sectors of the economy, needs credit for its development. As it is a sector affected by the natural phenomena and various other risks, there are specific agricultural credit conditions which are difficult to meet by most farmers. The credit guarantees schemes in Bulgaria are a comparatively new instrument in developing agricultural finance. Such schemes supported by governmental program have used in European countries a response to difficulties of agricultural holders and processing companies to access bank credits. The article examines the key issues which are taken into consideration to gain access to credit and discusses the various financial products for financing the agriculture, including schemes and instruments developed by the European Union Commission and European Investment Fund. It also provides a review of agricultural Credit Guarantee scheme and its role in improving access to agricultural credits by showing that these schemes provide loans to small and medium processing enterprises and mainly beneficiaries under the Rural Development Program. The schemes were created with the aim of overcoming the lack of financial resources for small and medium-sized business and to reverse the economic down trend. The Guarantee scheme applied in Bulgaria is successful, but it does not solve the problem of insufficient investment for small holders and micro and small enterprises.

**Key words:** agricultural credit, asymmetric information, sustainable rural banking, guarantee scheme, EU financial instruments, Rural Development Program

## Финансиране на селското стопанство: роля и ефект от схемите за гарантиране

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## Резюме

Селското стопанство като всеки стопански сектор се нуждае от финансиране. Този сектор е подложен на различни рискове, уязвим е от природните явления и от климатичните промени. Схемите за гарантиране на кредити са сравнително нов инструмент за подпомагане на финансирането, който се прилага в България от миналия програмен период. Подобни схеми се използват с подкрепа на държавата в Европейските страни за преодоляване на затруднения на земеделските производители и на преработвателни предприятия за достъп до банкови кредити. Направен е преглед на гаранционната схема и е изтъкната ролята ѝ за подобряване на кредитирането, за осигуряване на заеми за малки и средни преработвателни предприятия и предимно бенефициенти по Програмата за развитие на селските райони. Гаранционната схема, приложена в България, създадена с цел преодоляване на липсата на финансови ресурси за малки и средни предприятия, е успешна и преобръща тенденцията към нарастване, но не решава проблема с недостига на инвестиции за малките земеделски стопанства и за микро- и малки предприятия.

**Ключови думи:** селскостопански кредит, асиметрична информация, устойчиво селско банкиране, схема за гарантиране, финансови инструменти на ЕС, ПРСР

## 1. Agricultural lending and asymmetric information

The 2008 economic and financial crisis led to a sharp drop of investment across Europe. In particular, the crisis hampered the investments in small and medium business (SMEs) and innovation and SMEs financing. In fact in Europe their investment is 15% below pre-crisis levels<sup>1</sup>, which is alarming since agricultural development is a fundamental component of the rural areas development, social welfare and poverty reduction. One of the ways to cover the investment gap is to promote funding by applying the appropriate financial instruments. However, the uncertainty and credit restrictions are more prevalent in the agricultural sector than in other sectors. The risk for financial institutions is greater and therefore SMEs often fail to satisfy the required criteria to gain access to credits.

The proper loan structure for agriculture requires understanding of the borrower and borrower's operations, the loan purpose and credit risks. The loan transaction requires detailed information for the borrower and for the project applied for financing. It is crucial for the banks to know the viability of the project, the project purpose and creditworthiness of the borrower. The banks are also interested in net return of loans, collateral assets, present and future cash flows and other borrower characteristics.

The probability of default in agriculture is larger than in other economic sectors because of a range of factors which have an impact on the crop production and agricultural yield. The risks in agricultural loans are associated with the financial statement of the agricultural holders. For that reason the access to loan is limited for small-holder farmers as well as micro and small enterprises. The risk of default stems from uncertainty and information asymmetry.

The agriculture sector is very specific, its profit and performance depend on, among other things, climate changes and natural disasters. Farmers and agricultural companies are exposed to considerable risks due to seasonal income, price fluctuations for inputs and products or crop failure. Moreover, various types of risks have an

<sup>1</sup> Eurostat.

impact on the solvency of the agricultural holders and companies. These risks are classified as follows:

- *Production risk* relates to an instable crop yield and to reduction of the livestock production, it is due to weather conditions, unexpected climate change events.

- *Market risk* relates to the volatility of the commodity prices of the agricultural products on market.

- *Financial risk* relates to the ability to invest and to avoid bankruptcy.

- *Legal risk* concerns the legal stability and changes of the legislation.

- *Environmental risk* is understood as the risk of future adverse consequences of encounters with nature. The uncertainty arises from weather related factors and climate change factors.

- *Human resources risk* concerning to sustainable work force and capacity of the human capital in agricultural business.

The trust in provision of credit is a behavior between borrowers and lenders, but it is defined by the level of uncertainty. The level of uncertainty instigates asymmetric information within adverse selection and moral hazard. The asymmetric information causes inefficiency of the agricultural credit markets. The agriculture is vulnerable to climate change and the cash flows are hard to predict. The banks do not make differentiation in evaluation between business assets and agricultural assets. The requirements for the collateral in agriculture sector create irrational behavior between lenders and borrowers.

Rothschild (1976) and Stiglitz (1976)<sup>2</sup> have stressed the key role of asymmetric information in credit markets for generating market failures such as credit rationing, financial risk, and demand of credit from small and medium farms, pricing of risk and to a certain extent market breakdown. The 2008 financial crisis demonstrated that the problems of asymmetric information consist of two elements: (1) adverse selection and (2) moral hazard.

<sup>2</sup> Rothschild, M. and J. E. Stiglitz, "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information," *Quarterly Journal of Economics*, 1976, 90 (4), 630-649

Adverse selection occurs because of asymmetric information between the creditor and the borrower. The creditor does not have accurate knowledge of the production of the agricultural products and of the estimated value and liquidity of agricultural assets. The adverse selection in agriculture lending market arises because of the imperfections in the agriculture sector including uncertain crop incomes, vulnerability to the climate change, low liquidity of the agriculture assets and low productivity. Imperfections are also due to the specific production process, the impact of the weather, diseases and pests. The banks select agricultural borrowers according to their credit history and collateral capability; however the banks can not properly assess the borrower performance.

Moral hazard problems mainly arise when the creditors do not correctly evaluate the possible return of investments. The creditors approve the loans after evaluation of the future possible cash flow of the farmers' activities. However, agricultural farms are not obliged to publicly disclose financial balances and this somewhat limits the analysis.

The loan transactions in agriculture are more complicated due to uncertainty of the creditworthiness of agricultural holders and food processing companies. The transaction costs in lending of agriculture costs are not similar to the traditional lending for business, because of the high costs for monitoring and screening the current development of the farmers and agricultural companies and returns of the credits.

The banks consider agricultural holders as high risk clients. The financial institutions offering credit products to agriculture have perception of non-repayment due to sector-specific risks, insufficient knowledge in managing transaction costs and lack of liquidity to cover the default risk.

The banks are usually more inclined to deliver credits to larger farms, because of their ability to manage the risk is better than smaller farms and the probability of default is less. The imperfection of the credit market leads to increase the transactions costs. The high transactions costs are the main reason for farmers to avoid lending

from bank sector and, as a result, they look for alternatives for financing, such their own resources, lease and others.

## **2. Review of the agricultural credits in Bulgaria**

The rural regions in the EU represent 52% of its territory and 23% of its population<sup>3</sup>. The main sources for funding agriculture are direct payments ensured by the European Guarantee Agricultural Fund, investments offered by the Rural Development Program (European Agricultural Fund for Rural Development) and private resources from banks.

Membership in the EU and public subsidies from EAGF and EAFRD has driven investment process. The Rural Development Program (RDP 2014-2020) contributes substantially to the renewal of fixed assets and technological modernization, increase of the scale of agricultural production and develops economic activities other than agriculture in rural areas. The RDP provides investments for modernization and technological innovation of agricultural holdings, however this financial support is not enough and farmers and generally need additional funding. The agricultural holders need financing in order to ensure availability of cash flows to cover necessary expenses for implementing and executing projects. The farmers and food processing companies, who are beneficiaries of Rural development Program (RDP) supported from several resources: own sources, public subsidies, national state programs, loans. The Institute of Agricultural Economics studied the impact of the investments on the economic viability of agricultural holdings<sup>4</sup>. The research survey showed the largest percentage (41%) of the respondents have indicated as a source of funding rural development program, (31%) prefers own funds and only (15%) of respondents could use bank loans.

The main sources of financing for the agriculture sector include commercial banks, State Fund

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<sup>3</sup> EU Commission, Eurostat.

<sup>4</sup> Research project "Influence of the investment support on the economic viability of agricultural holdings", Institute of Agricultural Economics 2016.

Agriculture, lending cooperatives and the funds of the Common agriculture policy. The lending products for the agricultural sector have been developed in parallel with the introduction of the CAP in Bulgaria. The expansion of the credit could cover the gap of necessary funding. The agricultural lending includes a package of different financial products, which are offered by the Bulgarian commercial banks. The banks considered the contract for public subsidies as collateral. The loans for agricultural producers are opportunity for an application of the vital investment projects, since 2013 the demand for credit has increased and the trend has turned to upward.

The bank started to deliver flexible credit product, which correspond to the needs of the farmers. The most of the bank accepts the EU public subsidies as collateral.

The credit policy of banks to farmers was made on the basis of a questionnaire study. The aim of the study was to collect information for types of credits offered by banks. The banks offer credit for working capital 35% of the credit portfolio, investment loans are (23%) and leasing financing reaches 10%. The guarantee scheme loans in the bank's portfolio are 7%.

The agricultural farmers prefer working capital loans for filling the capital gap and to satisfy the needs of seeds, fuel, fertilizers and other

products used for harvest. The banks offer leasing for acquisition of agricultural machineries and equipment, however it is less than the supply of investment loans. The commercial banks, which were included in survey, point out that they have approved the following types of loans: 20% of the total credits are overdraft loans, the highest the share of loans is for working capital 40%, guarantees credits are 7%.

The access to agricultural credit increases the capability of the farmers with limited savings to meet their demand for productive investments and farm inputs.

While the created Guarantee scheme contributes to the increase of the credits for the beneficiaries within the RDP, bank lending to agricultural holders and beneficiaries remains difficult.

Funding scheme for farmers was developed by the Paying Agency through targeted short-term loans to cover current needs and loans to support the implementation of the investment projects. The scheme aimed to refinance loans to agricultural holders and enterprises with approved projects under the RDP measures. The beneficiaries have access to bank loans. Thus the scheme contributes to improving the absorption of funds of the RDP. The supporting credit schemes have been developed in the following areas: investment in activities creation; restoration and cultivation crops; investments in greenhouse production; investment in livestock farms and for individuals with approved projects under the RDP.

Agriculture householders used credits for investments and for carrying out both individual business projects and investment project approved by the RDP. The data below shows constant upward trend of lending to agricultural holders.

The total amount of loans to businesses in 2015 decreased from 31.102 billion BGN at the end of 2014 to 30.614 billion BGN in 2015 but the agricultural loans grew from 1.552 billion BGN to 1.747 billion BGN, an increase of 8.8%. The net lending increased by 115.5 million BGN, or 7.15% within a year. In 2015 the amount of loans granted by commercial banks to the "Agriculture, forestry and fishing" sector amounted to 3.58% of the total value of the loans to non-financial corporations.

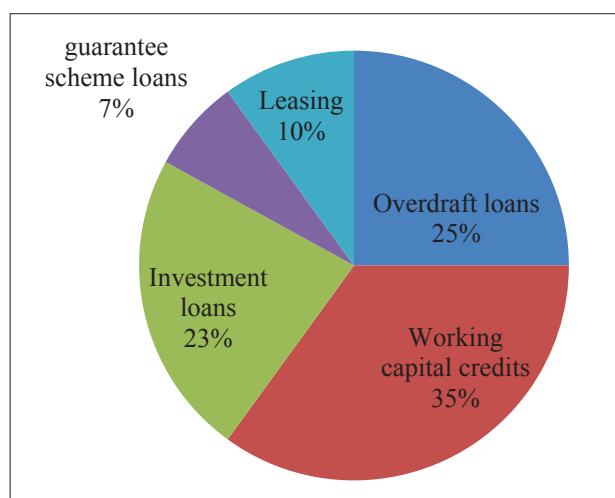


Fig. 1. Types of credits offered by banks

Source: Questionnaire study.

The agriculture received more loans compared to mining industry and electricity production in 2015. While the total amount of loans to businesses in 2015 declined from 49,486,504 BGN in 2014 to 48,756,430 BGN in 2015, the agricultural loans grew in the same period from 1,552,558 BGN to 1,747,782 BGN, a growth of 8.8%, and compared to 2012 the increase is around 25%. The credits in range 100,000 – 1 million slightly increased.

The number of credits has increased by 22% in the period 2012–2015. In 2015 the amount of

loans granted by commercial banks to the “Agriculture, forestry and fishing” sector was 3.58% of the total loans to non-financial enterprises. In 2015 the credits sized 250 000 – 500 000 BGN are approximately 15.8% of the total loans to non-financial enterprises, the loans sized over 500 000 BGN are 14.89% of the total amount of loans to non-financial enterprises, the loans sized over 1 million is 10.43% of total loans to non-financial enterprises.

A steady growth in loans is observed. In 2015 the share of the overdraft credits in the total cred-

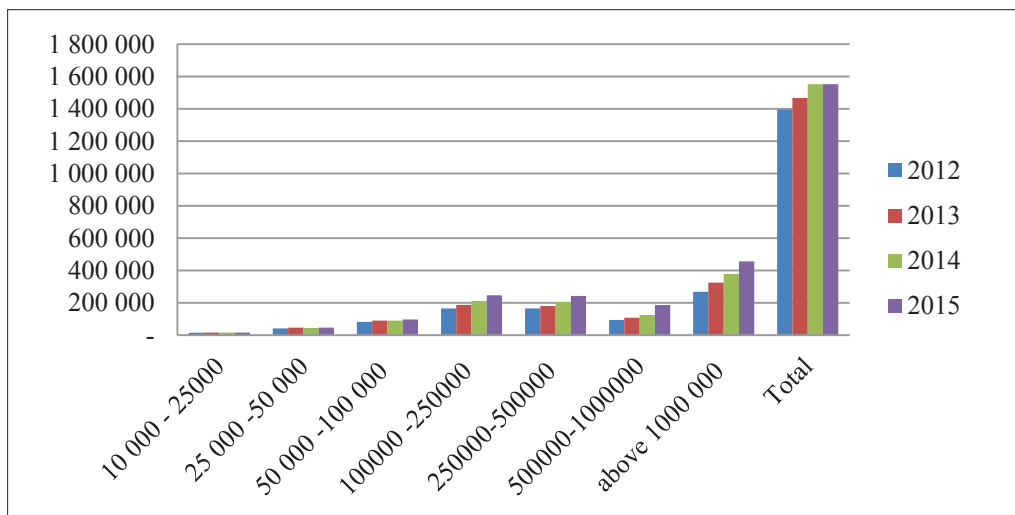


Fig. 2. Structure size credits (Thousands BGN)

Source: BNB.

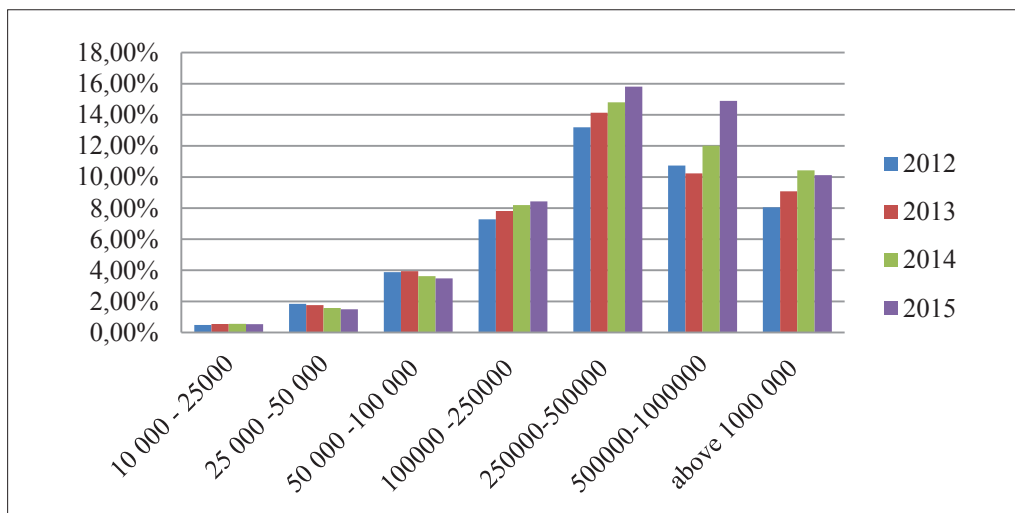


Fig. 3. Number of credits (% of total non-financial enterprise)

Source: BNB.

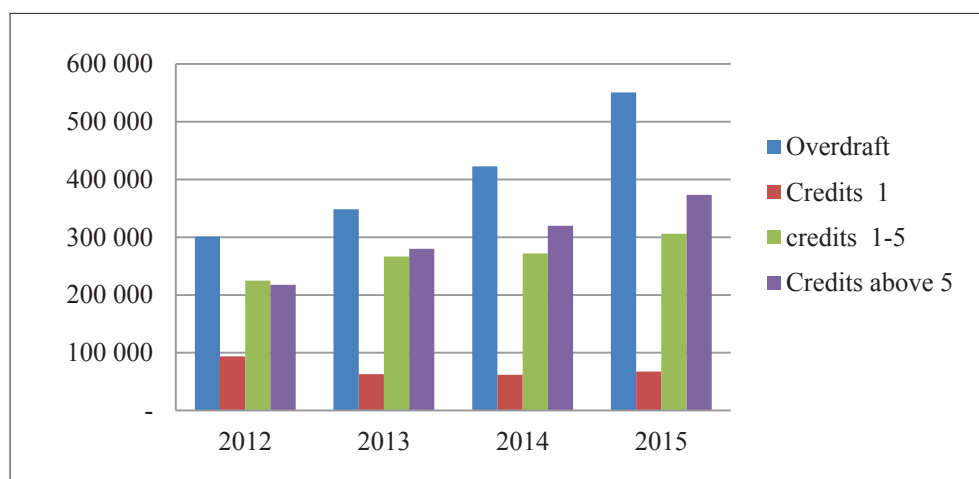


Fig. 4. Structure size credit (thousand BGN)

Source: BNB.

it amount is 8.78%, the share of the credits up to 1 year in the total credit amount is 12.6%, the share of the credits up to 5 year in the total credit amount is 7.8%. The demand of short-term credits is higher than long-term credits. The food processing industry loans for the last four years ranged between 6 billion and 7 billion BGN. The Loans to the agricultural sector is on average 20% to 30% of the loan portfolio of commercial banks.

The agricultural farmers seek working capital loans and loans for carrying out the approved investment projects. The supply of loans increased as a result of the high liquidity of the banks and newly-established guarantee scheme of the National Guarantee Fund.

Cost of acquisition of long-term fixed assets since 2011 shows a steady growth. The structure of gross formation of equity in agriculture demonstrates that in the period 2007-2013 investments were mainly in machinery and equipment, and in 2013 they represent around 54%. Investment subsidies paid under measure 121 "Modernization of agricultural holdings" in the period until December 2015 represent 31% of the total investments in the period 2007-2015.

As a result, the credit market for agriculture became more competitive; the commercial banks developed specific agricultural financial products aimed to meet the increasing demand of credits and offering credits in more favorable conditions. Working capital loans offered by commer-

cial banks are with respective ceiling for a short period, with lowered requirements for collateral. Credit expansion is due to excess liquidity, deposits growth, the profit margin and increasing demand of credits. The banks are willing to provide credit to larger holders because of their understanding that the risk is lower when compared to the risks for small farms and micro enterprises. Despite the growth of loans to farmers the scarce resources continue to be a serious obstacle for modernizing and upgrading of the equipment and the technological production processes. Small farmers are extremely reluctant to pledge land as collateral, but it is very costly to the small loan sizes farmer and agriculture enterprises.

Most agricultural holders prefer leasing because the payments are consistent with the cash flows of fixed annual payment rate and are made in equal installments. Leasing is a type of direct finance. In the agriculture sector it is used to finance purchases of land, machinery, automobiles and equipment. Receivables under lease payments for 2015 grew by 45% compared to 2014. Finance lease receivables for machinery and equipment sector are 22.4% of the amount of leases for 2012. In 2015 receivables leases for machinery and industrial equipment registered a trend of decline. The leases for machinery and equipment are around 40% in 2015. This positive trend is due to the increase in the supply of financial leasing firms for agricultural machinery.

**Table 1.**

	2012	2013	2014	2015
Receivables from lease payments (thousand BGN)	192093	234073	265519	282492
Receivables under lease agreements for new business (thousand BGN)	30650	29803	31309	38522

Source: BNB.

Demand of financial leasing for startup businesses grew by 25% in 2015 when compared to 2012. Receivables under leasing installments for 2015 grew by 45% compared to 2014. The growth of lease contracts is mainly driven by the implementation of the investment project within RDP. The demand of lease is indicative of the strengthening of economic activity in the agricultural sector and of the expression of the demand for leasing as a tool to finance the purchase of assets in agriculture. The volume of lease financing compared to the whole credit market in Bulgaria is only 5.7%, which means that for every 100 BGN loans to consumers and businesses only 5.7 BGN is leasing.

This positive trend in leasing indicates the revival of the economic activity in the agricultural sector. The demand for leasing grows as it is the preferred alternative source for financing the purchase of assets in agriculture. It is a suitable for the purchase of land, machinery and equipment. The collateral requirement is asset acquisition through leasing payments, the payments are fixed at annual rate and usually are in equal installments. Leasing is more accessible and cheaper than bank lending due to the fact that the cost of leasing transactions are lower comparing to bank loans.

Summary of the main findings:

- Up growth of the volume of credits for agriculture sector;
- Most of the loans are used for equipment, expansion and reconstruction of farms and holdings;
- Created competitive environment among banks in terms of lending to the agricultural sector. Commercial banks offer specialized products sector with good credit conditions.
- Increased availability of working capital loans of farmers and food processing businesses.

- Development of leasing for equipment and construction of agricultural farms and agricultural enterprises.

- The obstacles for farmers in accessing credit are mainly due to high interest rates, collateral requirements, lack of credit history and uncertainty of the crop yield. From the banks' perspective the lack of collateral, low profitability and uncertainty of the incomes of the agriculture holders are determinative of high risk in agricultural loans.

### 3. Credit guarantee scheme in Bulgaria

The emergence of credit guarantee programs dates back to the 19th century, and the first schemes were established in Europe in 1840s. These schemes were mutual guarantee associations, whereby groups of entrepreneurs contributed their own funds to provide guarantees for each other. Credit guarantee schemes were initiated in many developing countries particularly in the 1970s and 1980s. However, most of them were unsuccessful due to the unfavorable institutional, political and economic environments. In the 1990s new credit guarantee schemes supported by governments were launched around Europe.

The financial initiatives in the EU are directed to mobilize additional funding from private sectors, such as specialized financial funds and guarantee instruments. The common agriculture policy and rural development policy make significant impact on the agricultural development. One of the main changes is the role of European Investment Bank in application of the financial instruments. The Agricultural Guarantee Scheme was established in 2013. Its goal was to provide guarantees on loans granted by banks to farmers for agricultural production and agro-processing industry. Portfolio guarantee scheme secure

up to 80% of each individual loan to be guaranteed by the funds from the National Guarantee Fund (NGF) and the remaining 20% is guaranteed by the beneficiary. Commercial banks themselves will carry out the whole process of lending and will receive and process requests for supplementing the collateral.

Guarantee schemes under the RDP are aimed at beneficiaries of the Measure 121 “Modernization of agricultural holdings”, Measure 122 ‘Improving the economic value of forests’ and Measure 123 “Adding value to agricultural and forestry products” of the program. In 2015 were issued 582 guarantees. The total value of outstanding guarantees was 177 865 394.3 BGN: 127 561 299.39 BGN for beneficiaries under the Measure 121 and 50 304 094.91 BGN for the beneficiaries of food processing industry eligible under Measure 123. Credit guarantees under Measure 121 are 19% of the total project costs, the value of the issued guarantee is about 9% of the total project cost of the Measure 121. Credit guarantees under Measure 123 is about 30% of the total project costs, the amount of issued guarantees amounting to 12% of the total paid public expenditure.

The values of projects whose loans are secured by guarantees are over 362 million BGN: 248 million BGN under Measure 121 and 114 million BGN under Measure 123. The average interest rate on bank loans with guarantees is approximately 6.87% annually. About 90% of supported projects for farmers loan size is between 200 000 and 250 000 BGN. During the period of its existence guarantees issued by GF amounted to 91 million EUR (180 million BNG).<sup>5</sup>

<sup>5</sup> National Guarantee Fund.

National Guarantee Fund issued a significant share of the loans with guarantees for small businesses, approximately 70% of applications for credits. The Small and medium enterprises had sought loans aimed to ensure the implementation of projects. The guarantees in practice covers only 16% of each loan, therefore the banks are not able to improve substantially parameters of lending and they have no interest in improvement the requirements of risk management;

Guarantee scheme is easy to implement, low cost of management and administration, banks can quickly adapt their systems and procedures to the requirements for the application of the standard financial instrument.

The small and medium-sized agricultural holdings and companies in the rural regions, which do not have high value added and are unable to meet the banks’ high collateral requirements, are facing serious problems in securing financing from the commercial banks. Therefore the beneficiaries having contracts under the RRDP 2007–2013 are unable to secure financing and implement their projects. The use of financial engineering mechanisms to facilitate the access to financing for the agricultural sector and for project implementation, including financial engineering schemes, should continue in the period 2014–2020, and their scope should be included the investment Measures 4.1 “Investments in agricultural holdings” and 4.2” “Investments in processing/marketing of agricultural products”. It is therefore necessary to extend the scheme in order to meet the beneficiaries’ needs for financing economic activities in rural areas.

**Table 2.** Credit Distribution

SME	Size of credits	Size of the guarantees	Project amount
Micro (up 9 employees)	151295963.82	11 8 974 471.84	241 115 263.00
Small (up to 50 employees)	20 305 275.38	14 345093.70	31 275 533.99
Middle (above 50 employees)	5 673 199.21	44 545 838.79	90 148 811.48
Total	228334438.4	177 865 394.33	362 639 608.47

Source: National Guarantee Fund.



Summary of key findings of the guarantee scheme (Loss Portfolio Guarantee)

- Reduce the credit cost – do not charge fees and commissions for guarantee and loans; low transaction cost for business;
- Create competitive environment for offering credit products by commercial banks;
- Attract additional private resources to finance the implementation of investment projects under the RDP;
- Low moral hazard risk;
- The Guarantee Fund requires to 20% own resources secured by the borrower;
- The guarantee scheme is not sufficiently tailored to the low liquidity of agricultural, which is a reason for larger risk of the provision of the loans. Standard loan conditions back up of the loan up to 80%.

## Concluding Remarks

Agriculture is an essential sector that can generate added value to the national economy. There are various ways for financing agriculture including bank loans; own capital; subsidies; transfers from the state budget; EU agricultural funds, and so on.

Good practice in some European countries lead to the establishment of specialised agricultural credit institutions. Specialised credit institutions could take a different form: credit co-operatives, agricultural funds, guarantees funds. The advantages of these institutions include access to a cheap credit, low transactions costs, low cost for monitoring credit default and limit the asymmetric information problems.

Over the last programming period the guarantee schemes were implemented successfully and were suitable to support investment in agriculture. Guarantee schemes implemented under RDP 2007–2013 are useful and necessary to encourage investment of those beneficiaries who do not have enough accumulated capital. The guarantee scheme in Bulgaria provides some solution for the problem of collateral and high interest rate. As a result of delays in the launching of the Guarantee Fund (the fund actually launched 2013) its potential was decreased by 150 million EUR. Loss Portfolio Guarantee was implemented successfully and it could

be applied for the current programming period, but its scope should be expanded. A standard portfolio risk sharing instrument could be used to support start-ups and micro enterprises. The commercial banks in Bulgaria developed a range of credit products for small farms and small companies in rural areas. The credit market for agricultural holders became competitive and guarantee scheme enabled commercial banks to provide credits to farmers on the basis of certificates for approved projects by the Agency for Payments.

The established guarantee scheme contributes to expansion of loans in agriculture and to increase investments. The expected results of the upward trend of loans are productivity growth, improving the quality of the agricultural products, and stimulate rural entrepreneurship.

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