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Study on the Evolution of Agriculture Credit Market in Romania

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Abstract

The situation of agriculture in Romania is rather controversial as it is in the first ten countries of the European Union based on the land area exploited, but at the same time faces low productivity and has the largest number of farm holdings in the EU due to the excessive fragmentation of land in small areas with consequences on their productivity. Financial institutions in Romania are still reserved when it comes to lending to companies in the agriculture sector due to the specific risks this activity involves. The objective of the paper is the determination of the present situation of agriculture lending in Romania as a prerequisite for a complex study on the influential factors of loan loss provisions in the case of agriculture loans. The study concentrates on the relation of credit volume disbursed for the last 12 years with data regarding the gross domestic product of the country for highlighting the contribution of agriculture to GDP and the attention this economic sector receives from banks' perspective. The research is based on an analysis of reports issued by the National Bank of Romania and available data from World Bank and FAO. The results consist of formulated answers to questions on influential factors of the agriculture credit market in Romania and the relation between agriculture share to GDP and agriculture credit in Romania.

Keywords

Agriculture credit market, GDP evolution, agriculture finance, banking system

JEL Codes: G20, Q14

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1. Introduction

The banking financial sector has experienced consolidation and development following the last economic crisis, becoming a reliable business partner. Financial stability is a priority, with its supervision being carried out closely by the Romanian and European authorities. On the other hand, measures to protect financial stability also have an impact on financial intermediation, the level of which is quite low at present. In particular, this affects certain categories of economic operators, such as small and medium-sized enterprises, start-up companies and those in the agricultural sector, although european development programmes also have among the objectives the facilitation of their access to financial instruments.

The situation of agriculture in Romania is controversial as it is among the top ten countries in the EU (European Union) by area of agricultural land, but at the same time it faces low sector productivity. Also, according to the European Commission (2015), it is the country with the most agricultural companies, accounting for 33.5% of the total existing in Europe. This is because Romania is among the countries where there are many farms that exploit less than 10 ha of agricultural land. The areas exploited are fragmented and small, and this is also one of the causes of low productivity as these farms do not have the necessary equipment and do not benefit from negotiated prices for agricultural products.

As regards the contribution of the agricultural, forestry and fisheries sector to the country's GDP, it decreased in 2018 to 4.34% of GDP compared to 6.25% in 2011. At the same time Romania has one of the most important contributions of agriculture to Europe's GDP, being 4.3% compared to the average of EU countries which is 1.6% according to World Bank (2018). Most people who work in agriculture do not have legal forms and there is the possibility of a high level of fraud in terms of sales and the declaration of real income. Globally, according to FAO (United Nations Food and Agriculture Organization) (2018), trade credit to the agricultural sector was 2.9% in 2017, higher than in 2016 (2.4%), but still lower than the agricultural sector's contribution to GDP, at 3.4% in 2017.

The objective of the research is to present aspects of the current state of lending to agriculture in Romania, taking into account the period 2007-2019. The questions we seek to formulate answers are:

1. *What are the influence factors of the evolution of lending in Romania?*
2. *What does the agricultural credit market look like compared to other sectors of the economy?*
3. *Is there a relationship between credit to agriculture and the development of the sector in terms of added value tot the GDP of the country?*

2. Literature review

Aspects of poor lending can be found in Doran *et al.* (2009) referring to the lack of a middle category in terms of financing agriculture. This middle category refers to small and medium-sized enterprises which are in terms of their size and needed capital they are too large to be financed by microcredit institutions and at the same time too small to be attractive to banks. Another problem that arises whent it comes to lending to farmers is that they need specific credit risk analysis according to the special charactristics of thei activity.

Difficult financing of the middle segment also arises as a result of the fact that the specific analysis of farmers in the category of small and medium-sized enterprises and in the category of subsistence farms must be adapted to the strategy adopted by them and together with the necessary monitoring of such credit entails certain additional costs for creditors. The higher amounts requested by farmers and longer periods attract the need for formal guarantees. According to Doran et. Al (2009), all these additional costs can be recovered through interest rates and fees for large loans, but often for small and medium-sized enterprises in the field of agriculture such amounts, representing external capital, are difficult to absorb, demonstrating a difficulty in financing medium-sized farms. A possible solution for this situation is also the proposed one for risk mitigation, i.e. the association of small and medium-sized farms in order to facilitate access to credit for this category.

The idea that there is a relation between farm size and access to finance is also reinforced by Sarris, Savastano and Tritten (2004) based on data from five Central and Eastern European countries, including Romania. Their study concentrates on the financial constraints of farmers related to their size and the results indicate that these constraints exist and that they are stronger for small sized farms. A valued source of funding for the agricultural sector is subsidies. While lending generally supports economic development, it is interesting to watch the impact that agricultural subsidies have on farm productivity. In this context, Rizov, Pokrikac and Cyanian (2012) study the impact of subsidies on firms' productivity by suggesting that they have a positive impact on productivity in relation to access to credit and attitudes towards risk. The situation could be similar to that of private co-financing for European projects, which add responsibility for the use of the capital obtained.

The impact of agricultural credits on farm productivity can also be found in Danilowska (2004), who analysed the credit market in Poland for a period of 14 years before accession to the EU and concluded that cooperative banks played a significant role among financial intermediaries and agricultural investment loans have an impact on economic production and prosperity under the influence of the State which supported the credit market through preferential loans. Studies on the situation of agriculture in Romania can also be found in Burja & Burja (2014), who analyse the situation of Romania's agriculture in relation to the other EU Member States and points to differences between them in terms of sustainability in rural areas showing that the banking system restricts agricultural firms' access to credit and does not give confidence to the field, especially subsistence agriculture.

Another direction of research on the evolution of agriculture is related to the impact that this economic branch has on the economy as a whole. The contribution of agriculture to GDP is studied by Dachin (2011) for the period 1990-2010 alongside the impact of agricultural prices variations on inflation and the relationship with employment. The conclusion was that the oscillations of agricultural production influence GDP even in the context of a decreasing contribution of the agricultural economic branch to the total GDP. On the basis of the literature, it is therefore apparent that the economic development of the agricultural sector is closely linked to access to credit, with difficult situations occurring in particular in the case of small and medium-sized farms.

3. Methodology of research

Analysis of credit evolution focuses on the analysis of the amount of loans granted to the agricultural sector in the period 2007-2019. The selected period refers to the 2 years before the last economic crisis in 2008, 10 following ones. The research consists of the analysis of the monthly bulletins of the National Bank of Romania (BNR), financial stability reports and data available on the World Bank and FAO website, as well as Romanian and international studies and articles, publications of the European Commission (EC) and the Ministry of Agriculture and Rural Development (MADR). The main tool used in the research is the analysis and comparison of data on the national situation relative to the situation of other countries, the 12-year evolution of the contribution of agriculture to GDP and national GDP, and the percentage of credits granted to agriculture in relation to the flow of credit for other economic sectors. The data has been personally synthesized.

4. The Evolution of Credit Market in Romania

The financing of agriculture is important because this branch needs capital at various stages of production, a specific situation being that which refers to the period of time between cultivation involving costs and harvesting and valuing production or, in the case of livestock farmers, the period of time necessary to mature the animals for recovery. In the current context of the need for sustainable development, investment in agriculture is important, in their absence making it difficult to keep up with the challenges of consumption of natural resources, climate change and food safety. There are multiple sources of financing in the agricultural sector, with banks being the main external source of formal financing.

Lending to farmers through financial instruments is encouraged at the EU level for the provision of sustainability in agriculture. Financial instruments are financial measures aimed at supporting the achievement of the objectives set by EU policy that can take the form of credits or guarantees or risk-sharing lending instruments. Their need arose as a result of the fact that many European projects were not implemented due to a lack of private co-financing. Banks perceive a certain degree of risk in lending to small and medium-sized enterprises, and in particular to farmers who also pose business-specific risks. In addition, for start-up (newly established) companies – this being the case of the majority of beneficiaries of European funding – access to credit is all the more difficult, with banks requiring guarantees of more than 120% of the value of the credit. The evolution of agricultural lending in Romania is closely linked to national rural development programmes (NRDPs) due to the necessary co-financing of beneficiaries accessing European funds. MADR reports show that 10% of agricultural projects have benefited from implementation under the guarantee scheme instrument as stated by Tonea & Beleiu, (2018), while the second instrument – the shared risk lending instrument had not been implemented until 2018 for the 2014-2020 programme. The Guarantee Scheme is an important financial instrument as banks benefit from a double-perspective risk reduction – guarantees granted by the European Agriculture Fund for Rural Development (EAFRD) and by financing projects in the eligibility phase for European funding.

4.1. Agriculture bank credit

Bank loans contribute to economic development, and the importance of agriculture in the formation of gross domestic product is still significant in terms of available agricultural land areas and the population living in rural Romania. However, the banking system's orientation towards this sector is weak compared to EU countries. According to the European Commission (2017) loans to farmers mainly finance investments while EAFRD funds support investments and a share of their working capital, up to a maximum of 30%. Countries' orientation towards agricultural lending is greater in developed countries than in developing countries, with the explanation being found in the fact that in the former farms are larger and better developed according to FAO (2018).

A special category of agricultural specfic credits are subsidy credits. These are credit products granted on the basis of a certificateissued by the Agency for Payments and Intervention in Agriculture attesting the beneficiary's entitlement to the receipt of subsidies for SAPS (Single Area Payment Scheme implemented in the European Union for Agricultural Subsidies). Based on the document issued by APIA, banks grant a credit of up to 80% of the amount of subsidies for a period of less than 1 year until they are collected. The interest charged is much lower than in the case of other loans due to the fact that the repayment is made directly by APIA in an account opened by the client and transferred to the bank, so that the risk of default of the credit does not manifest itself. However, these credits are reported to the Credit Bureau and are taken into account in the reports of the amounts granted, representing substantial amounts of the total loans, as such I consider it necessary to delimit them from the rest of the loans in order to properly assess the opening of banks to the agricultural sector. The subsidy credit remains a useful tool for farmers due to the conditions of granting, reduced time and documentation and advantageous costs, as well as an opportunity to develop complementary products for banks.

The analysis of the evolution of appropriations is important as a prerequisite for further research on the correlation of credits, subsidies and the contribution of the agricultural sector to GDP. Rizov *et al.* (2012) suggests that the interaction between loans and subsidies may have a positive effect on farm productivity, even though their study shows that only subsidies negatively influence productivity before direct payment decoupling reform, and Bathla & Jee (2019) shows that investments with funds from institutional sources are greater than those made from non-institutional sources.

4.2. Evolution of bank credit disbursed to agriculture sector in Romania

Romania is currently facing a credit deficit for agriculture due to several factors: insufficient guarantees, lack of documented income in many cases and factors specific to the field such as environmental risk. The situation of insufficient guarantees is also related to the requirements of the bank requiring the coverage of the loan with guarantees above 120%. These characteristics are particularly common for small and medium-sized agricultural firms, the category with the greatest financing needs. Banks take a cautious stance towards this category, which also presents activity-specific risks in addition to the risks of some SMEs. Without financial support these companies do not have the capacity to develop, ending up in a vicious circle in which banks cannot finance them due to the fact that they are not developed and the lack of access to credit prevents their growth. Non-bank financial institutions are beginning to show a low appetite for credit risk, so they in turn restrict farmers' access to credit. Loans for agriculturecompared to loans granted to other sectors of the economy in Romania in the period 2007-2018 are shown in Table 1 for each sector of the economy for both banks and other credit institutions, payment institutions, (IP), electronic money issuing institutions (EIMEs) and non-bank financial institutions (NFIs). NFIs are covered by Law 93 of 2009 and as such have reported data on loans granted since 2010.

Table 1. Loans granted by credit institutions and other institutions

	Total sums disbursed (millions lei)		Economy Activity Sector: Agriculture, Fishing, Forestry (AFF)		Industry		Construction business		Financial Intermediation and Insurances		Public administration and defence, public social insurances,		Services		Retail	
Year	Banks	NFI+ IEME+ IP	Banks	NFI+ IEME+ IP	Banks	NFI+ IEME+ IP	Banks	NFI+ IEME + IP	Banks	NFI+ IEME + IP	Banks	NFI+ IEME+ IP	Banks	NFI+ IEME+ IP	Banks	NFI+ IEME+ IP
2018	395924	42539	16262	8682	69478	4882	28684	2983	12923	167	17531	1395	98741	20412	152305	4018
2017	371312	36429	15424	7183	68292	4701	27176	2615	11290	128	16389	1123	93733	17814	139007	2865
2016	348315	32227	13578	5917	64885	4480	27793	2668	9233	108	15552	666	89826	16389	127448	2050
2015	332691	28379	12799	4754	62707	4045	30521	2726	7551	86	15112	729	85604	14364	118396	1676
2014	314132	26989	12211	3951	61538	4121	31611	2748	6779	101	16059	988	81872	13315	104061	1765
2013	305956	28235	11259	3511	57929	4687	32226	3278	5808	101	16297	1132	81816	13672	100621	1853
2012	307570	28229	11331	2841	57909	4575	33082	3795	6542	115	16238	1403	83340	14056	99129	1444
2011	300698	29895	10009	2103	56816	5063	34058	4483	6383	138	14376	1420	82875	15313	96183	1374
2010	272059	31079	7896	1541	50467	5368	32584	4843	7478	193	13360	760	73585	16308	86688	2066
2009	256727		6625		46605		30668		8184		11614		70520		82511	
2008	255534		5665		49614		29835		8168		9216		73644		79393	
2007	186371		3949		39303		13134		7457		8652		63233		50462	

Source: BNR, monthly bulletins

The share of loans granted by banks to agriculture in 2018 was 4% of the total volume of loans granted, at the same level as the private credit granted to the public administration sector, being higher than the share of loans granted to the financial intermediation and insurance sector, but lower than those of the other sectors. The industry holds 18% of the total loans granted, while 25% of the loans were granted to economic operators in the service sector and 7% for the construction sector. Most of the loans were granted to the retail sector.

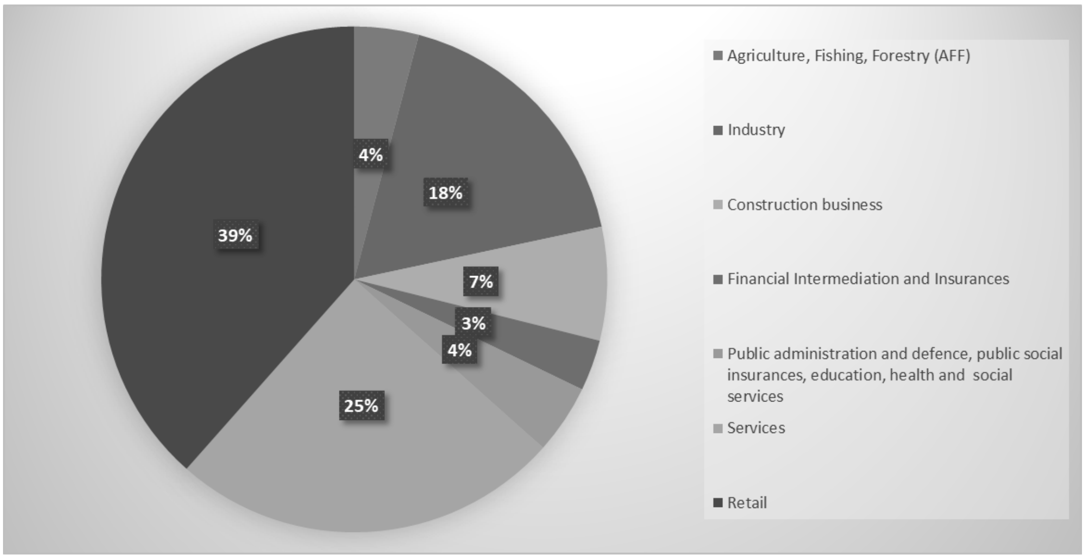

Figure 1. Rates of loans granted in 2018 by banks by economic sector

Source: Own calculations based on data extracted from MONTHLY BNR bulletins

The graph shown in Figure 2 expresses a greater openness of other credit institutions and NFIs to agricultural lending as they have granted agriculture 20% of the total loans. NFIs are generally more flexible than banks in terms of undocumented guarantees and revenues, but credit costs are higher, and the repayment time periods are longer.

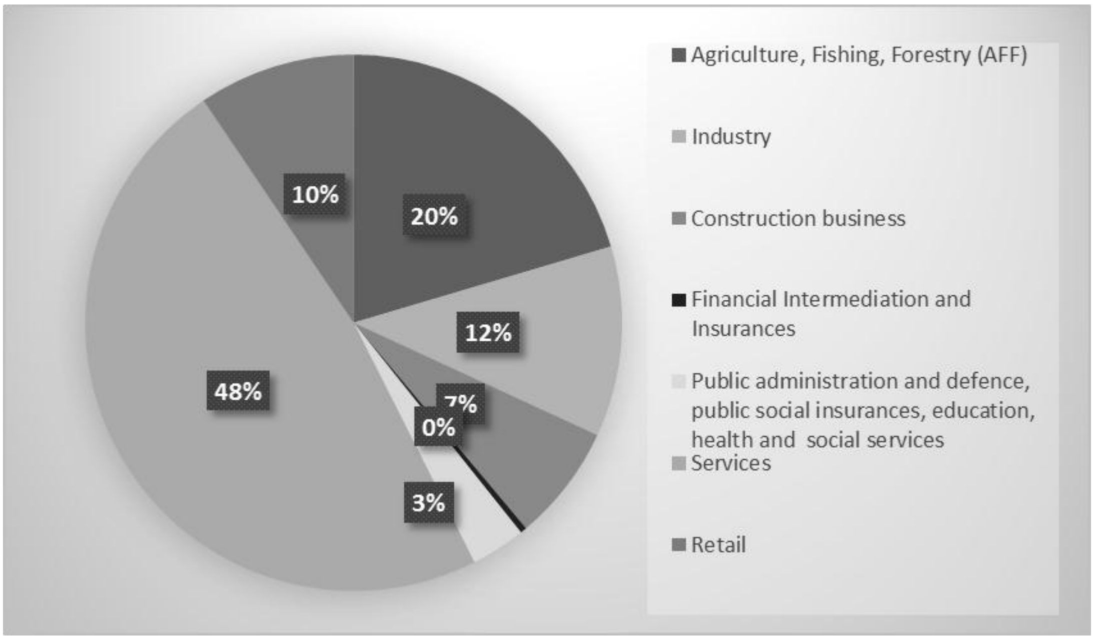

Figure 2. Loan rates granted in 2018 by credit institutions and NFIs by economic sector

Source: own calculations based on data extracted from the NBR monthly bulletins

Following the comparison of the two data sets, it appears that IFNs have a higher risk appetite for lending to farmers, although it would also be interesting to compare the number of loans that contributed to the formation of the amounts granted in both cases, as well as the average amount of credit for each of the cases. This data is not currently available. The difference between the two quotas confirms the missing middle in agricultural lending studied by Doran *et al.* (2009). Overall, agricultural credit accounted for 5.68% of total loans granted by banks and NFIs in 2018, up more than 3% from 2017. The period of time under review coincides with the implementation of the two rural development programmes run by the Ministry of Agriculture and Rural Development and financed by the EU. Considering the increase achieved during this period, a research hypothesis can be formulated as – the implementation of rural development programmes influences the evolution of agricultural lending.

The evolution of appropriations in the period 2007-2018 is shown in Figure 3 covering the period since the beginning of the financial crisis, the years of the recession and those that followed it.

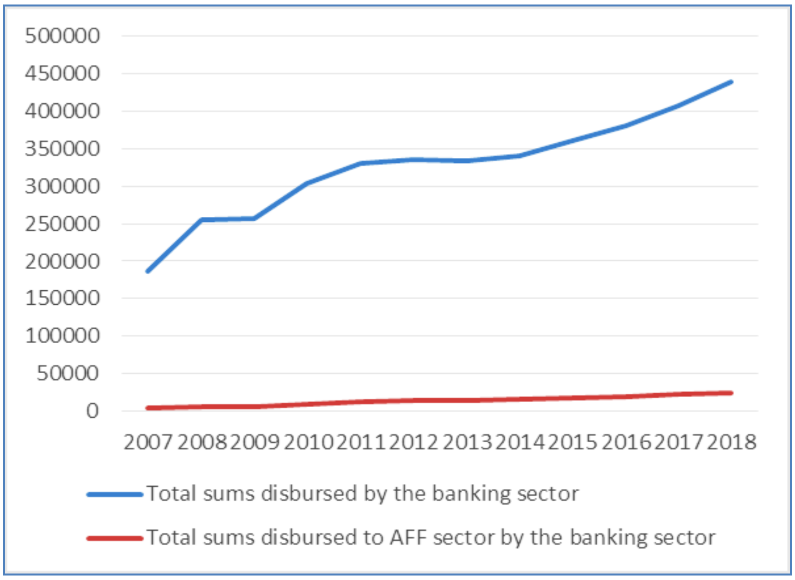

Figure 3. Evolution of total loans granted compared to evolution of loans granted for the Agriculture sector

Source: own calculations based on data extracted from MONTHLY BNR bulletins

The 12-year period after Romania's accession to the EU is shown in Figure 3 and indicates an increase in credit for both agriculture and the economy as a whole. Growth appears slow but steady in the period under review. The financial crisis of 2008 affected large firms to a greater extent than SMEs in terms of lending conditions, but the impact they had on the latter as shown by credit analyses. There is evidence that while lending has fallen in the euro area, some firms have increased bond issues according to BIS (Bank for International Settlements, 2018).

A comparison between the evolution of agriculture's contribution to GDP and the evolution of GDP in Romania is shown in Figure 4. The contribution of agriculture to GDP showed a positive development in the period immediately following EU accession. This period coincides with the start period of the first NDRP programme (2007-2013), with a link between the inflows of money from European funds and economic development. The contribution maintained a relatively constant trend, with declines and increases not exceeding 2 percent from year to year, even in the face of large GDP fluctuations during the recession. The evolution of the contribution of agriculture in relation to the evolution of GDP during the period under review is described in Figure 4.

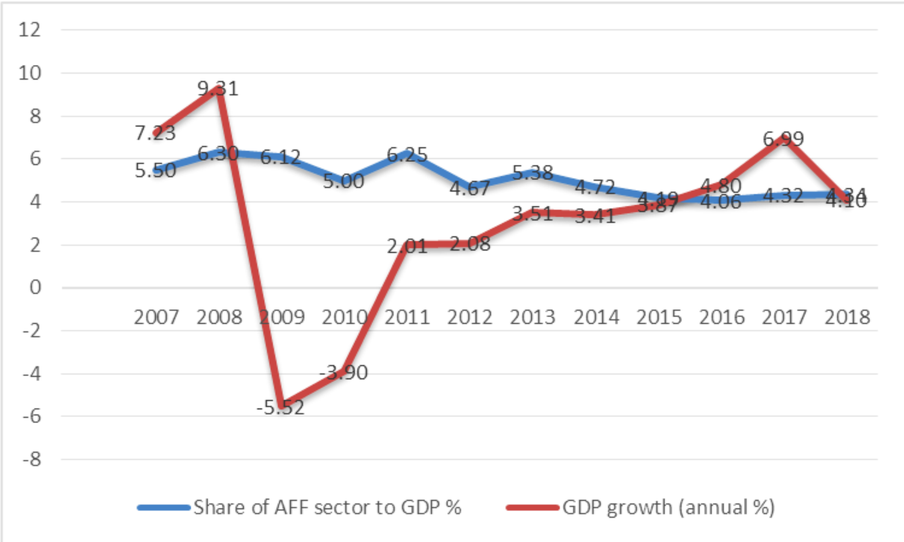

Figure 4. Agriculture's contribution to GDP relative to annual GDP fluctuations

Source: Oown calculations based on data collected from monthly BNR bulletins

The evolution of loans to agriculture compared to the contribution of the agricultural sector to the evolution of GDP is reflected in Figure 5. The relationship between credit oscillations and THE evolution of GDP is studied by Takáts & Upper (2013) who analyze data on 39 financial crises that were preceded by economic booms. They conclude that changes in bank lending, even in correlation with GDP, are not associated with growth in the first two years of recovery, but the correlation becomes stronger in years three and four. Their results show that a decrease in bank lending in the private sector will not necessarily affect the economic recovery. These results are at odds with the assumption that the restriction of lending in the private sector affects economic growth. The reverse relationship arises in 2010 when, even against the background of the increase in lending in the agricultural sector, there is a decrease in the sector's contribution to GDP.

Financial development – including bank loans are associated with growth in general. Figure 5 shows a declining contribution of agriculture to GDP in the period 2007-2019 with slight increases in 2011 and 2013 while the evolution of credit followed an upward trend from 2.12 % in 2007 to 5.69% in 2018. MADR (2016) indicates an uncovered need fof 2.1 billion in agricultural funding, results obtained in the ex-ante evaluation of the financial instruments, and recommends the implementation of the two financial instruments – the guarantee scheme and the shared risk lending instrument.

The index of the credit orientation to agriculture is calculated by FAO for several countries, based on data on loans to agriculture reported by them. This index reflects the contribution of credit to agriculture taking into account the economic contribution of the sector and is calculated as the ratio between the agricultural credit and the contribution of agriculture to GDPand is calculated as the ratio between the agricultural credit and the contribution of agriculture to GDP. According to the FAO, (2019) the value of this index less than 1 indicates that the agriculture of that country benefits from credit to a lesser extent than the contribution it makes to national GDP.

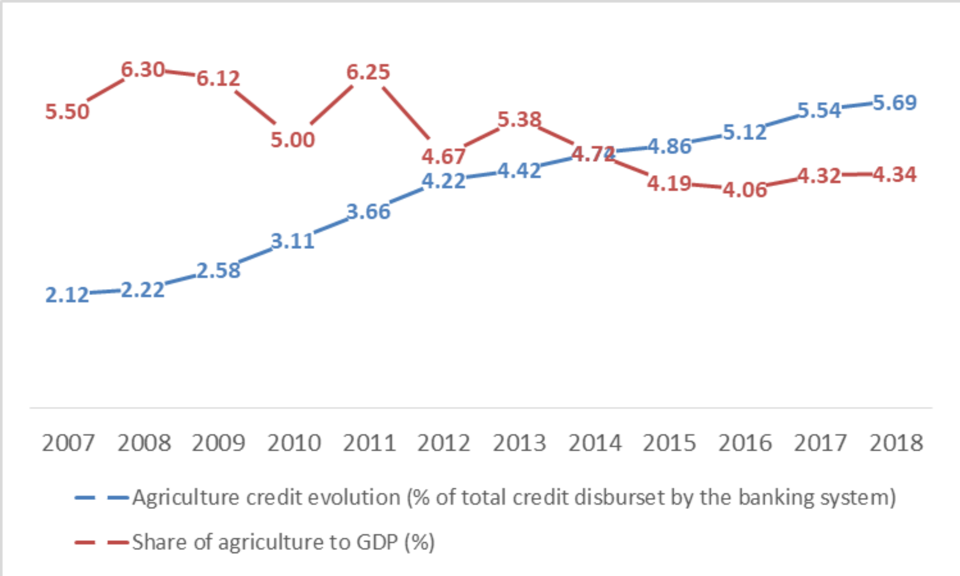

Figure 5. Evolution of loans to agriculture compared to the contribution of the agricultural sector to the evolution of GDP

Among the developed countries for which it was possible to determine AOI (agriculture orientation index), Germany ranked 1st, with an index of 5.3, followed by Belgium with 4.7 and France with 3.6 meaning that, for example, farmers in Germany receive 5.3 times more credit than their economic contribution, compared to producers in other fields. The explanation lies in the fact that in these countries' agriculture is dominated by large farms that have, large productions, high degree of technology and own the needed guarantees. There was no data available to calculate this index for Romania, but the AOI of other countries is relevant for marking the international context of lending to agriculture.

5. Conclusions

Based on comparisons and the literature, we can say that farmers and rural non-agricultural enterprises need easy access to sources of funding (including in terms of costs, repayment period and guarantees) in order to invest in their businesses. The situation is quite different at the moment, as in Romania financial instruments are less accessible to businesses in rural areas (especially start-ups) and to the agricultural sector in general. Despite the financial mechanisms established under the National Rural Development Programme 2007-2013, the issue of access to bank loans remains a difficult one mainly due to the lack of guarantees, but also the prudent lending policy of commercial banks towards the agricultural sector and rural SMEs. Improving access to funding sources would support farms in the process of modernisation and better market orientation, including participation in short supply chains, in the process of more competitive acquisition of inputs, diversification of production and improvement of operations and overall viability.

The main influence factors for the evolution of lending appear to be Romania's accession to the EU and the following programmes that encouraged development of the agricultural sector. At the same time, credit to agriculture faces restraints coming from banks' attitude towards risk. While credit to agriculture increased in the period following Romania's accession to the European Union, it still remains insufficient. The results of the evaluation of ex-ante financial instruments indicate a need for financing of 2.1 billion in agriculture and 0.2 billion for non-agricultural investments in rural areas, necessity that is currently uncovered. The budget allocated to financial instruments is EUR 92.5 million and covers 40% of this requirement, according to MADR (2016). Financial instruments are meant to ease private co-financing for beneficiaries of rural development programmes, and the implementation of the guarantee scheme has been prioritised because the main cause for limited access to lending for farmers was the lack of guarantees.

Agriculture is not a favourite sector for bank credit, holding only 4% of the total disbursed sums, but the situation is different in the case of NFIs which seem to have a greater risk appetite and the share held by the sector is of 20% out of the total credits. All in all, credit disbursed to agriculture sector rose from 3% at the moment of Romania's accession to the EU to over 5.68% in 2018, 10 years later after the economic crisis. Considering the two points of view, the financing needs and the openess of credit institutions towards the agriculture sector, the conclusion is that the credit market for farmers can still be developed up to the point that the development and the sustainability of farms is reached.

The evolution of loans to agriculture compared to the contribution of the agricultural sector to the evolution of GDP confirm the results of Takáts & Upper (2013) who show that a decrease in bank lending in the private sector will not necessarily affect the economic recovery as the increasing lending trend is not followed by the same trend in the contribution of the agricultural sector to GDP. The contribution of agriculture to GDP showed a positive development in the period immediately following EU accession. This period coincides with the he first NDRP programme (2007-2013), with a link between the inflows of money from European funds and economic development.

The perspectives of research on this subject are related to the establishment of correlations between funding from European funds sources and bank loans to the agricultural sector. For a more accurate picture of the credit status it is necessary to determine the percentage of loans that represent the advance payment of the subsidies in the form of bank credit out of the total loans granted by banks – information that currently constitutes a limit to this research due to the fact that such data are not made public by banks.

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