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Special Agricultural Lending Institutions - The Case of Macedonia -

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Accounting over 10% of country's GDP, agriculture has substantial role in Macedonian economy. As a viable, yet risky economic sector, it is of great significance for this paper to show to the policymakers that creating special financial (sometimes state owned) institutions for lending in agriculture is a key element in helping farmers to enhance agricultural activities, thus to obtain self-sustainability. One such institution already operating in Macedonia is Agricultural Credit Discount Fund (ACDF). The main purpose of this study is to emphasize the importance of ACDF's operations in expanding the outreach and accelerating economic welfare of farmers and rural poor. Brief analysis of ACDF's performances in the last 10 years shows that the Fund operating in close collaboration with the participating financial institutions and the Government has significantly succeeded in increasing banks' agriculture credit portfolio by 204%, decreasing interest rates by 8.5 percentage points and supporting over 15,000 jobs or about 1.6% of nation's work force. The general conclusion of the study suggests that ACDF's 'modus operandi' could be a guideline for similar institutions in developing and transition countries, as it creates prerequisites for easier access to finance, stronger competition among banks and increased income to its beneficiaries.

JEL Codes: E5, G2, H8 and Q1

Field of Reserach: Agriculture Finance

1. Introduction

Until 10 years ago, lending in agriculture was commonly avoided by Macedonian banks. This avoidance came mainly because of its exposure to specific risks not immanent to other economic sectors: weather conditions, poor profitability, high transaction costs and lack of collateral. Agriculture is one of the country's most important sectors creating 10% of the GDP (together with agro-processing industry over 16%) and employing 13% of the workforce.[1] Operating in high risk environment with narrow margin is not a 'dream come true' for profit-based financial institutions. This paper focuses on the question whether should the Governments interfere in overcoming financial vacuum by subsidized credit programs when finances from commercial banks in supporting strategic economic sectors are scarce?

Critics say that subsidized credit programs have been widely reported to experience high default rates.[2] In the other hand, when demand and supply of money in strategic sectors

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don't meet (i.e. market failure occurs) Governments on short to medium term should create a specific environment where these imperfections will diminish. Market failure in this manner means the failure of a more or less idealized system of price market institutions to sustain "desirable" activities or to astop "undesirable" activities.[3] In our case, banks (price market institutions) fail to sustain agriculture and rural development ("desirable" activities).

In Macedonia, the link between supply and demand for agro-loans was established in 2002 by creating Agricultural Credit Discount Fund (ACDF) within the Ministry of Finance worth EUR 6.2 m.[4] Its primary purpose was financial administration of Agricultural Financial Services Project (AFSP) or Second Loan Intervention of the International Fund for Agricultural Development (IFAD) in Macedonia (IFAD Loan 545-MK or IFAD II).[5] As a result of ACDF's increased on-lending activities, the Government capitalized the Fund with EUR 0.8 m. in 2005, EUR 21.2 m. in 2007 and EUR 17.3 m. in 2008. These capitalizations resulted on the paramount of its operations at the end of 2008, ACDF revolving fund to be worth EUR 45.5 m. of which EUR 15.5 m. liquid funds and EUR 30.0 m. receivables. As of mid-2010, ACDF has been transferred to the state owned Macedonian Bank for Development Promotion (MBDP).

The paper is structured in traditional six sections style. Literature Review is focused on three relevant contemporary and complementary studies, methodology and model on empirical researches while results and analysis on confirming the hypothesis. At the end, findings and conclusion emphasize the research's objectives and importance.

The significance of this detailed study is presented by ACDF's outstanding performance indicators during its ten years of operations. The paper suggests that the Fund could be a guideline for establishing similar institutions in developing and transition countries.

2. Literature Review

Theoretically, the Government may choose to intervene in the price mechanism largely on the grounds of wanting the change of allocation of resources and achieve what they perceive to be an improvement in economic and social welfare.[6] The main reasons for Government intervention are: to correct the market failure, to achieve a more equitable distribution of income and wealth and to improve the performance of the economy (Riley 2006). This paper tends to confirm Riley (2006) and focuses on establishing special state-owned refinancing facilities when credit demand in agriculture is low due to banks' high interest rates. This Governmental maneuver should be in a manner to correct the financial market failure.

In the past seven years, IFAD has successfully used refinancing facilities in economies in transition to stimulate investments on farms and rural processing companies.[7] Unfortunately, few have studied the operations of special refinancing institutions in transition countries. Ruotsi (2008, p. 7) stated that similar refinancing facilities were established in Macedonia, Moldova and Armenia with encouraging results. There is evidence of activity and impact on farmers and rural companies in all three countries (Ruotsi 2008, p. 10). While Ruotsi (2008) is focused on small-scale beneficiaries, mainly farmers and rural poor, this study tends to emphasize that when created properly, a state-owned financial or quasi financial institutions could operate at little or at no cost for the Government. They can provide acceptable financial services to agribusiness making the commercial banks and saving houses satisfied and legitimate partners at the same time.

Robinson (2001) agrees that agro-lending is generally microfinance and as such needs creating sustainable commercial financial institutions. Commercial microfinance is a complement to, not a substitute for Government and donor programs (Robinson 2001, p. 73). However, the study has shown that when market failure occurs, Government refinancing facilities are pillar agencies supporting rural poor. They further give strong impetus for creating commercial agro-finance programs within commercial financial institutions.

One of the basic objectives of ACDF was to create a framework for a sustainable agricultural finance sector within the Macedonian banking system, through the establishment of an agricultural re-financing facility.[8] Dimovska (2010) probably gives the closest evidence of how important Government refinancing facilities are when most banks have limited experience in dealing with small and medium-scale agricultural producers and their enterprises and few trained staff to deal with rural clientele. While Dimovska (2010) is focusing on general remarks, the key intention of this study is to stress the importance of such organizations by quantitative analysis of performance indicators.

3. Methodology and Model

In order to test our hypothesis, we have conducted an empirical research of ACDF operations that has included several scientific methods. The method of quantitative analysis was broadly used mainly to analyze ACDF's credit portfolio between 2003 and 2012. This timeline was observed because of two reasons: a) although the Fund was established in 2002, it has disbursed its first loan in 2003 and b) a timeline of a decade is sometimes sufficient to draw up applicable conclusions. A significant contribution in understanding why ACDF matters was given by MBDP. The Bank is practically unique source of data and has generously provided its internal reports to this study. Additionally, a questionnaire has been disbursed to participating financial institutions (PFIs) in order to gather information about the influence of the credit line to their agro-lending operations. Complementary, the method of induction was used to draw up conclusions based on observation of ACDF's past and current performances.

The deduction method along with the method of dialectics, were applied to define findings and conclusions about the usefulness of ACDF and the need of availability of loans for agribusinesses and rural poor. Unfortunately, no similar institution in the country was found for an adequate comparative analysis to be made.

The operating model of ACDF as discount or refinancing facility is genuine. Its refinancing operations are co-financing activities undertaken by both ACDF and selected PFIs. Twelve privately owned commercial PFIs (ten banks and two saving houses) are utilizing ACDF revolving fund for their agro-lending operations at the moment. PFIs are eligible to draw down refinancing for a percentage of a sub-loan to qualifying beneficiaries at a rate of no more than 80% that is set by ACDF. PFIs are required to pre-qualify loans with ACDF. They pay interest for the discounted amount at a level of 0.5% annually that serves as a financial incentive for expanding their agro-lending activities. The credit risk in on-lending operations is with PFIs and there are absolutely none fiscal implications to the state budget. PFIs also provide a portion of the investment capital from their own funds (at least 20% of the loan amount) which is huge incentive for them to insist on-time repayment by their clients. Beneficiaries are also required to contribute a minimum of 20% to the cost of investment not mandatory to be in financial assets but in assets correlated to the investment credited. PFIs then repay the discounted portion of the sub-loan to ACDF in constant EUR terms and in accordance with the repayment schedule set for each sub-loan. Individual sub-loans may also be indexed in foreign currency. Each PFI is allowed to apply their own lending policies; collateral requirements, documentation, repayment period, fees, etc. (except for the interest rates) to sub-loans.

Why is important to include commercial institutions to these operations? Sometimes, poor people are served by the Government or donor-financed nonbank financial institutions, such as nongovernmental institutions and village banks. But, most of these organizations are capital constrained and can meet only a tiny fraction of the demand for credit (Robinson 2001, p.7). This is where the banks jump in with their almost ‘unlimited’ funds for lending.

The ACDF credit line is especially targeted to agribusiness, i.e. individual farmers, rural households, agricultural, agro-processing and agro-export SMEs as well as European Instrument for Pre-Accession Rural Development Program (IPARD) beneficiaries. It refinances a range of credit products defined in three major categories: a) primary production loans (up to EUR 100,000) for investments in primary agricultural production - viticulture, horticulture, floriculture, livestock; b) agro-processing loans (up to EUR 300,000) for investments in agro-processing industry - dairies, mills, wineries, fruit, vegetables and meat processing capacities and c) agro-export loans (up to EUR 300,000) for expanding in agro-exports.

The best competitive advantage of this credit line is the interest rate cap for final beneficiaries. It is fixed and set to 4% annually for the first credit category and 5% annually for the second and third credit categories making it one of the lowest on Macedonian credit market. ACDF provides quality lending by continuously promoting it as commercial, not Government subsidized under the circumstances. The ceiling on interest rates lower than actual capital market rates was a voluntary concession by the PFIs in negotiations with the Government. They receive funds from ACDF under much favorable terms than the capital markets regime, which allows them a reasonable margin.

4. Results and Analysis[9]

A total of 5,501 loans in amount of EUR 67.0 m. have been approved from ACDF funds between 2003 and 2012 (Chart 1). This capital injection into the nation’s rural economy represents 1.6% of agriculture GDP and became substantial contribution to rural development. The overall amount of loans underestimates the total value of induced investment, since borrowers’ own equity contributions to the associated businesses are not included. Around 56% of the total credit portfolio ended in primary agricultural production, 38% were utilized for investments in agro-processing, while 6% supported agro-export activities.

As said before, the role of PFIs in disbursement ACDF funds is crucial. The beginning of ACDF in 2003 was supported by three banks only, all of them mainly oriented towards SMEs rather than individual farmers. The big breakthrough in lending happened in 2004 when two saving houses were introduced to the Program. Their flexibility in on-lending activities opened ACDF funds to individual farmers on great cheers by the later. This was for first time ever small individual agricultural producers to have access to favorable loans on the Macedonian capital market. Finding their own interest in attracting this focus group to their banking operations, several other banks have also joined ACDF refinancing activities (two in 2005, two in 2008 and three in 2011). This action has dramatically expanded ACDF outreach on a level equal to some smaller Macedonian banks.

Chart 1: ACDF Loans disbursement by Years (in million EUR)

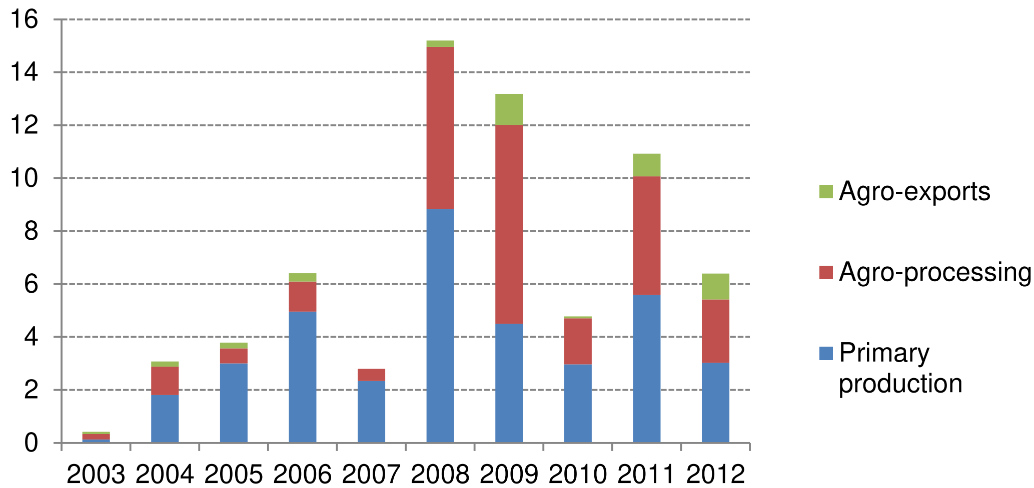
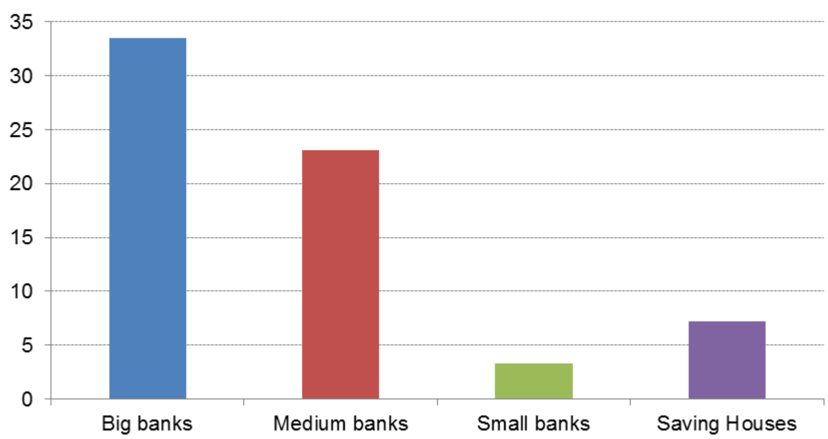


Chart 2: ACDF Loans disbursement by PFI Size (in million EUR)



Expectedly, big banks have the biggest portion of refinanced loans of EUR 33.5 m. or 50% (Chart 2), followed by medium banks (EUR 23.1 m. or 34%), saving houses (EUR 7.2 m. or 11%) and small banks (EUR 3.3 m. or 5%). [*Note*: According to National Bank of the Republic of Macedonia (NBRM) regulations, "a big bank" is considered bank with assets of MKD 15 b. (EUR 244 m.) and over; "a medium bank" is considered bank with assets between MKD 2 b. and MKD 15 b. (EUR 33 m. and EUR 244 m.); and "a small bank" is considered bank with assets of MKD 2 b. (EUR 33 m.) and less]. Compared total assets to ACDF refinancing it can be concluded that when lending, saving houses are more farmer friendly than small banks and medium banks more than big banks.

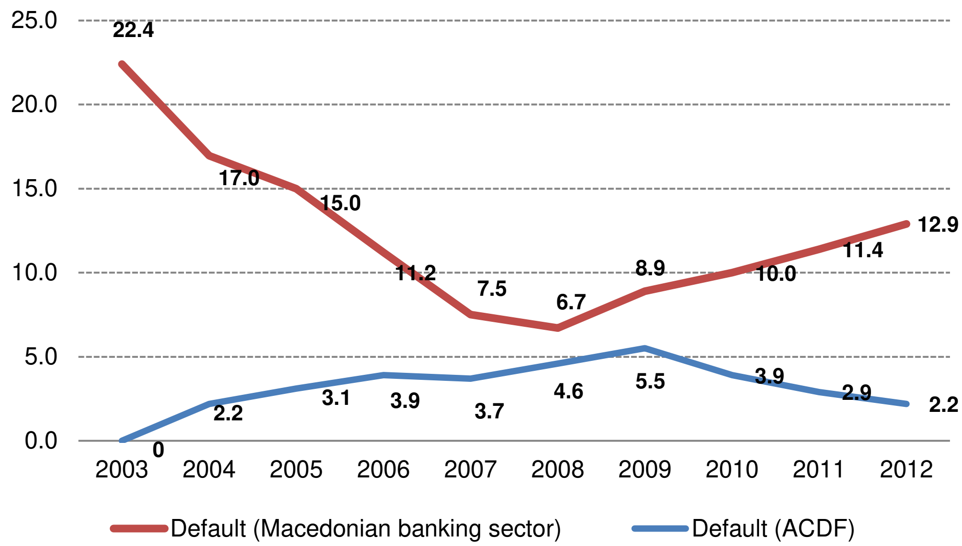
Macedonian primary agricultural production is mainly small and fractious. Therefore, it's not surprising that a share of 81% of the disbursed loans and a share of 28% of the disbursed amount are loans amounting EUR 10,000 and less (Table 1). [*Note*: The anomaly of higher average loan of EUR 308.009 than maximum limits of EUR 300,000 is due to higher temporary limits of EUR 700,000 for wineries and EUR 500,000 for the rest of agro-processors allowed for working capital procurements in the period 2009-2011, as well as EUR 400,000 for greenhouses in 2011]. It is noticeable that few agribusinesses can sustain credit exposure of over EUR 200,000. Thus, the capacity of borrowing in Macedonian agro-industrial complex is limited on loans between EUR 3,000 and EUR 50,000.

Table 1: ACDF Loans disbursement by Individual Loan Amount as of 31.12.2012

Individual Loan Amount	Number of Loans	%	Amount (EUR)	%	Average Loan (EUR)
up to 10,000	4,453	81	18,696,869	28	4,199
10,001-50,000	794	15	18,686,462	28	23,535
50,001-100,000	170	3	13,385,146	20	78,736
100,001-200,000	69	1	11,637,907	17	168,665
over 200,000	15	0	4,620,131	7	308,009*
Total	**5,501**	**100**	**67,026,515**	**100**	**12,185**

The full credit risk of all ACDF-refinanced loans is with the PFIs. Their obligation is to fully repay the refinanced principal plus interest back to ACDF revolving fund even in cases when the final borrowers delay their repayments or default. While the credit risk of individual loans is with the PFI, it is of interest for ACDF to follow-up the actual repayment by clients. Above all expectations, the default rate of ACDF loans is more than satisfactory. The worst, but still bearable result was noticed in 2009 when global financial crisis stroke sharply nearly everyone including agribusiness itself (Chart 3). Fortunately, in 2012 only 2.2% of ACDF loans were default. This near excellence was partly as a result of PFI's accelerated recovering or writing off after the crisis. Considering that default in whole Macedonian banking sector for 2012 was 12.9% , it is clearly evident that ACDF beneficiaries are far more serious in fulfilling their repayment obligations than the rest of economic operators in the country.

Chart 3: ACDF Loans Default at PFIs compared to Macedonian banking Sector Default (in % at the end of year)



Source for Macedonian banking Sector: (NBRM 2013)

ACDF within its authority is continuously monitoring clients' performances in order to determine whether the funds are used properly and according to the criteria, policy and procedures. As of the end of 2012, 2,922 beneficiaries have been monitored and only 60 misuses and fouls has been discovered or about 2%. Considering number of clients inspected as well as total number of loans lent, this is a very small portion of misuse that proves ACDF beneficiaries' responsibility, seriousness and honesty.

5. Findings

ACDF's most obvious impact on beneficiaries is *decrease of rural poverty*. The refinancing operation, with over EUR 37.0 m. invested in primary agricultural production, successfully reached smaller-scale, asset poor households. The outcomes from the regular monitoring and assessment show that these borrowers develop their businesses and become economically stronger and viable with the realized investments.

The ACDF borrowers *improved their competitiveness* by modernization of equipment and production technologies as well as higher products' quality and value added. Over EUR 17 m. were spent by agro-processors for working capital, mainly from domestic suppliers (individual farmers), who at the end of the day benefited from these lending arrangements and over EUR 8 m. for production equipment and restructuring production techniques in order to keep pace with the modern technologies.

ACDF operations *decreased the unemployment rate* by engaging labor on farms and in agro-processing companies. The very poor, including those without agricultural assets, gained access to seasonal employment arising from higher production, enhanced marketing and increased employment requirements for product handling, sorting and packaging at the processor level. Exactly 15,093 jobs were supported by ACDF loans in the analyzed period which is about 1.6% of the country's work force.[10]

Last, but not least, crucial importance of the ACDF credit line is *increased income* to beneficiaries. Considering 4% average agricultural BDP growth in the period 2003-2012, the investments in primary agricultural production resulted in total value added of about EUR 12.0 m. The investments in agro-industry on the other hand resulted in total value added of about EUR 16 m. (considering 8% average agro-industry BDP growth in the same period).

ACDF strategy was recognition of the farm household as core entrepreneurial unit in the emerging market-oriented rural economy in Macedonia. By directing agricultural financial support to such, it was expected not only to improve the standard of living of farm families, but also to impact favorably on other rural poor with no access to agricultural assets (Dimovska 2010). Farmers and other rural entrepreneurs have become increasingly connected to the formal financial sector on a systematic and commercially viable basis. Greater production entailed an increased labor requirement and contributes to absorbing new entrants to the labor force. Intensification of production has increased the demand for on-farm labor and suppliers of inputs, while increased output offered scope for private investments in processing and trading enterprises, thereby creating further employment opportunity and means to enhance linkages in the rural economy. The appropriateness and success of the ACDF approach can be measured not only in terms of the absolute number and amount of loans refinanced, but also in terms of the wider effects induced among PFIs and the target population.

The provision of financial services to agricultural sector in Macedonia was rather limited until ten years ago. The banks' perception of high risks in agricultural lending combined with high transaction costs as well as profits enjoyed in lending to other sectors, inhibited formal financial services' penetration into the small-scale agricultural financial market. Most banks had limited experience in dealing with small and medium-scale agricultural producers and their enterprises and few trained staff to deal with rural clientele. In that environment, ACDF has created a *framework for a sustainable agricultural finance sector* within the Macedonian banking system. All PFIs now actively use the ACDF scheme to start their lending operations to small rural clients from their branch offices and have started to compete of clients by offering ACDF-refinanced loans.

The *increased competition among PFIs* in attracting new clients made the loans more available to individual farmers, i.e. the loan terms (interest rates, repayment periods, collateral requirements and fees) became more favorable. While there was an interest rate cup for ACDF loans, the repayment periods finally followed the specific needs in agriculture. The collateral policy was further relaxed by accepting mortgages on rural housing/production facilities, agricultural land and pledge on agricultural mechanization or equipment. Fees have also been lowered in some cases by more than 50%. This "positive transfer" of appropriate approaches to service delivery and products between banks is among the key measures originally identified for ACDF success.

ACDF has succeeded in convincing PFIs to notice the financial potential of agriculture. As a result, their *agribusiness credit portfolio has dramatically expanded*. In 2013, a questionnaire has been disbursed asking PFI about the impact the credit line had on their operations between 2003 and 2012. The results were positively astonishing:

- The share of agricultural credit portfolio in their total credit portfolio has risen from 13.4% to 35.9%;
- The total agricultural credit portfolio has increased by 204%;
- The network of branches included in receiving and processing loan applications for agriculture has expanded from 2 to 107;
- The number of credit officers included in agro-lending has risen from 18 to 310;
- Average annual interest rate for loans supporting agriculture had plummeted from 15.7% to 7.2%;

ACDF lending *has expanded country's agricultural production* by 1.6%. The lending to agro-exporters resulted in net agricultural exports of approximately EUR 11.0 m. added to the country's capital account that accounts over 1% of country's agro-exports.

One of the key roles of ACDF was *strengthening the supply chain connections*. Having in mind that all three loan categories form a supply chain circle, ACDF operations are an excellent example of how supply chain stakeholders should be financially supported. Besides direct supporting of new jobs, ACDF by lending to agro-processors and agro-exporters helped in supply chain integration of over 65,000 farmers or 33.8% of officially registered individual farming households in Macedonia (SSO 2007, p. 16). As mentioned before, the former used the loans to purchase agricultural goods, expanding therefore their network of individual suppliers.

6. Conclusions and Limitation

The findings of this research support Riley (2006) in claims that Government interventions correct market failure. Until state-led ACDF became fully operational, banks were reluctant in lending to farmers because of the high risks and vice versa, farmers were reluctant to borrow from banks because of the high interest rates. With ACDF, connection between the stakeholders has been established on mutual satisfaction. Now banks consider farmers and agribusinesses equally important clients in retail and corporate lending and the latter are credited bellow market interest rates.

The study challenges Robinson's (2001, p. 147) considerations that credit subsidies prevent sustainable microfinance. ACDF refinancing activity is an original method of soft subsidy to interest rates not in contrary to WTO Agreement on Subsidies and Countervailing Measures. This operation prevents direct subsidies on interest rates and states them as a voluntary concession by PFIs in order to expand their outreach. We have shown that it was effective way to encourage lending to agribusiness with highly self-sustainable commercial banks. As shown in this study, ACDF's operations denied that subsidized credit programs, especially in state-owned institutions often have high default rates (Robinson 2001, p. 142). As seen on Chart 3, default rates with Fund's credits were lower than average default rates in the Macedonian banking sector.

The study reaffirms Ruotsi's (2008) findings that small-scale beneficiaries, mainly farmers and rural poor benefit from state refinancing facilities. Unfortunately, in some cases these individuals cannot reach banks' credit schemes. Therefore, this research has expanded Ruotsi's (2008) claim to agribusinesses, rural enterprises and cooperatives. They have substantial impact on country's GDP, but also employ people from rural areas. During the analyzed period, ACDF has refinanced 4,620 loans to individual farmers or 2.4% of farming households (SSO 2007, p. 16) and 881 loans to SMEs which accounts about 25% of the enterprises registered to be working in the agro-industrial complex. However, in 2012 these SMEs, employed 7,963 employees mainly in rural municipalities.

Dimovska (2010, p. 7) concludes that with appropriate, tailored, commercially driven support measures in place, confidence of financial institutions in rurally based lending can be generated, including in the perceived "high risk" areas of lending to individuals in remote rural areas. The ACDF results quite clearly show that farmers and small-scale entrepreneurs as well as rural agribusinesses are able to invest successfully on the basis of commercial borrowing and thereby markedly improve their incomes. The study totally agrees with Dimovska (2010) pointing out that while initially offering incentives to all interested financial institutions to expand their rural operations, the longer-term objective of ACDF interventions has been met - banks and other financial operators to increasingly start considering rural small and medium-scale producers and enterprises as a part of their mainstream clientele, that would in the near future entirely be served with their own resources.

The major limitation of this research is absence of identical refinancing institutions in transition or developing countries that prevents adequate comparison. Although, similar organizations do exist in Armenia, Albania and Moldova, the differences in their operation limits the full and effective respond to our hypothesis. While ACDF in Macedonia functions as a financial Fund, in Albania operations are carried out by a company, i.e. First Albanian Financial Development Company (FAF-DC), in Armenia by a bank, i.e. Agricultural Cooperative Bank of Armenia (ACBA) and in Moldova by the Ministry of Finance through Credit Line Directorate.

The nature of this limitation comes from the different disbursement policies in the institutions in all four countries. In Albania, the focus was put on sustainable development on rural mountainous areas rather than agribusiness itself. In Armenia it was noticed an absence of competition between selected commercial participating financial institutions since most of the credit disbursement was realized through ACBA. In Moldova the disbursements were according to Government's development policy rather than the needs of potential beneficiaries. It is our humble opinion that such limitation was not necessarily damaging to the quality of this research since the key hypothesis was defended in the results and findings.

Nevertheless, we are aware that comparison between credit portfolios of similar refinancing institutions influences on higher quality of this kind of studies. Therefore, this limitation will be overcome through future researches.

The Macedonian Government sees the role ACDF can play in the future regarding the usage of EU pre-accession funds. In short to medium-term, country's emphasis on rural development as part of the EU convergence process is expected to ensure that preferential refinancing rates on voluntary basis at PFIs will continue to be available through ACDF in order to encourage higher levels of PFI investment in agriculture and related industries and serve rurally-based customers. For these purposes, the Government has adopted a 5-year National Program for Agriculture and Rural Development providing additional EUR 22 m. by year 2017 for capitalizing ACDF. Providing agricultural sector with preferable credit lines under terms and conditions acceptable to each farmer and SME will became a challenge for using favorable funds for achieving EU goals and standards. These loans would ensure resources for financing agriculture and rural development projects, thus preparing them to use European pre-accession IPARD fund in near future.

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Appendix

Year	2004	2005	2006	2007	2008	2009	2010	2011
population (thousands)	2,033	2,037	2,040	2,043	2,047	2,051	2,055	2,059
Inflation (end of year %)	-1.9	1.2	2.9	6.1	4.1	-1.6	3.0	2.8
GDP (m. EUR)	4,442	4,813	5,231	5,966	6,720	6,704	7,058	7,504
GDP (growth %)	4.6	4.4	5.0	6.2	5.0	-0.9	2.9	2.8
GDP agriculture (m. EUR)	491	507	545	484	481	567	554	613
GDP agriculture (growth %)	6.4	0.3	4.8	-2.9	-1.2	17.8	-1.9	10.7
State expenses (m. EUR)	1,437	1,635	1,728	1,920	2,289	2,275	2,500	2,600
MAFWE expenses (m. EUR)	28	33	47	46	76	84	105	92
Deficit (% of GDP)	0.0	0.2	-0.5	0.6	-0.9	-2.7	-2.4	-2.5
Credit portfolio (m. EUR)	951	1,150	1,507	2,094	2,809	2,910	3,169	3,459
Credit portfolio (growth %)	4.3	4.1	6.7	9.9	10.7	1.5	3.0	3.6

Sources: State Statistical Office of Macedonia, National Bank of the Republic of Macedonia and Ministry of Agriculture, Forestry and Water Economy