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Contents

Determinants of rural development support use in Macedonia, Serbia, and Bosnia and Herzegovina

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Abstract

The aim of this paper is to identify the internal and external factors that form the farmers' intentions in relation to the use of the rural development support and explain their behaviour, in order to design an appropriate assistance plan to increase the effectiveness and efficiency of the rural development policy. The analysis is based on the theory of planned behaviour and multivariate statistics applied on data gathered in a survey of about 900 farmers that took place in November-December 2014 in Macedonia, Serbia and Bosnia and Herzegovina. The findings confirm that farmers' intentions are influenced by the past behaviour (application), their attitudes towards the use of rural development support and the possibilities for co-financing. The social norms are mostly important in Serbia, followed by Bosnia and Herzegovina. Other socioeconomic factors, such as education, market orientation, farm size and the share of household's income from agriculture, have different impact among the countries.

Key words: rural development support, Macedonia, Serbia and Bosnia and Herzegovina

Introduction

In the process of EU integration and policy harmonization, Macedonia, Serbia, and Bosnia and Herzegovina need to adopt a new conceptual and administrative model of agricultural policy. A particular challenge for the policy makers and the beneficiaries is the rural development (RD) policy, which requires adjusted rules and procedures (for instance, co-financing, compliance with minimum legal standards, preparing business plans) in which neither of the countries has enough experience.

The progress that these countries have made in adjusting their agricultural policy to the Common Agricultural Policy (CAP) of the EU is visible, but still insufficient. In recent years, the countries have adopted (Macedonia and Serbia) or are in the process of adopting (Bosnia and Herzegovina) a long-term strategic and programming documents and setting their objectives and priorities for agriculture and rural development. Yet, the broader social objectives, such as food safety standards, environmental issues, and social problems of rural areas (e.g., poverty rates, depopulation, gender and youth issues, and marginalised rural areas)

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are relatively low positioned. Furthermore, the structure of the total budgetary support to agriculture is mainly unfavourable for the rural development, because market and direct producer support measures prevails and the total budgetary expenditures are considerably lower than in EU countries (see Figure 1). The total amount of funds dedicated to rural development support (RDS) is low and unstable, and it varies from below EUR 10 per hectare of UAA in Serbia to about EUR 25 per hectare in Macedonia (Bogdanov et al., 2015). This instability in terms of availability and budgetary transfers reflects the low priority that national governments give to rural problems.
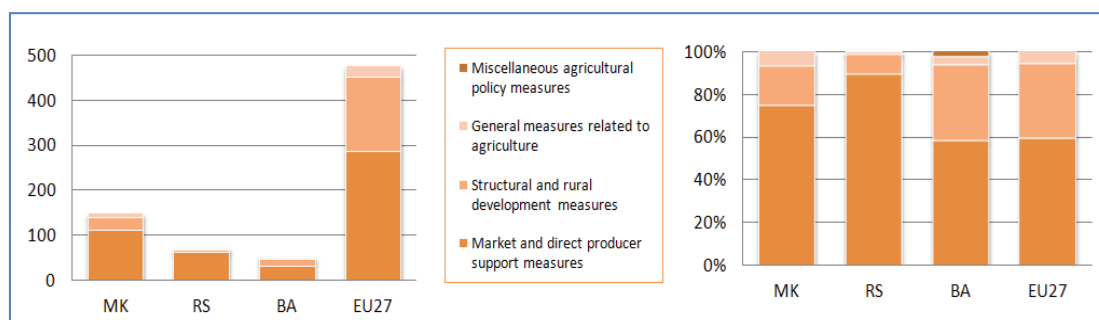
Source: *Bogdanov et al., 2015*

Figure 1. *Budgetary expenditure for agri-food sector and rural areas, by pillars, 2012 (million EUR and %)*

The low level of support for rural development is just one of the problems farmers face. A large number of farmers are not familiar with the measures and mechanisms of support for rural development, and a significant number cannot meet the administrative requirements (for example, the necessary evidence proving property rights, and the collateral requirement). Having this in mind, the aim of this paper is to identify the internal and external factors that form the farmers' intentions in relation to the use of the RDS and explain their behaviour, in order to facilitate future assistance plan designs to increase the effectiveness and efficiency of the rural development policy.

Social psychology provides suitable conceptual frameworks and methodological tools to understand farmer behaviour and to design interventions for supporting a behavioural change. According to the theory of planned behaviour (TPB) (Ajzen 1985, 1991, 2012), the individual intention to perform a given behaviour determines the performance, whereas the individual intention is influenced by the direction and intensity of the attitude towards the behaviour, the subjective norm, and the degree of the perceived behavioural control. Although TPB is not a theory of behaviour change (Ajzen, 1991), according to a meta-analysis of Webb and Sheeran (2006), it is among the most frequently used theories for changing behavioural intentions. Positive attitudes towards the behaviour, strong approvals by the respected others, and high confidence in the perceived behavioural control ultimately result in stronger intentions to engage in certain behaviours. Once an intention is formed, the second stage is to close the intention-behaviour gap by helping individuals to overcome obstacles to perform the behaviour.

This paper is based and extended from the research conducted in the framework of the regional project titled as "The impact of socio-economic structure of rural population on success of rural development policy" (Kotevska and Martinovska Stojcheska, 2015). Following the introduction, the materials and methods are presented, then the results and discussion and the concluding remarks in the end.

Material and methods

A survey took place in November-December 2014 with face-to-face interviews in Macedonia, Serbia and Bosnia and Herzegovina, gathering 895 filled questionnaires out of which 884 were included in the analysis. The questionnaire was designed to obtain measures of the TPB constructs. Eliciting accessible beliefs was done first by using open-ended questions to agricultural experts, supplemented with modal accessible beliefs from the literature review, which were additionally simplified after testing the questionnaire with farmers. The statements are assessed in most cases on a 5-point scale, or a Likert-scale given in semantic differentiate format, ranging from 1 as worst evaluation to 5 as best evaluation.

Multivariate statistics are used to analyze the sample and farmer's intention to apply for RDS. Principal component analysis (PCA) is used to identify the latent underlying structure among the statements regarding the RDS. The difference between countries is determined with non-parametric tests (Kruskal-Wallis test and Mann-Whitney test). The correlation between intentions and the statements expressing attitudes, norms, and controls, as well as the past behaviour and the socio-economic characteristics is calculated using Spearman's and Pearson's correlation.

In our study, we delimit the analysis to explaining the behavioral intention to apply for RDS, because of the time constraint in conducting the research, but also because there was no information on the next RDS calls in the three countres. Anyway, we do not find this as a shortcoming, since strong intention to engage in certain behavior is generally a strong indicator of its ultimate performance (Sheeran, 2002).

Results and discussion

Intentions to apply for RDS

Most of the surveyed farmers intend to apply and use RDS for their own household in the short-term (one of the next calls), and in the mid-term (next 3–5 years) (see Table 1). Macedonian farmers have equally strong intentions to apply for RDS both in short-term and mid-term perspectives (mean 3.4 and 3.5, respectively). Serbian farmers have stronger intentions to apply in immediate calls (mean 3.8 compared to 3.3, respectively), while farmers in Bosnia and Herzegovina have stronger intentions to apply in mid-term (mean 3.6) rather than in a short-term prospect (mean 3.2).

Given the current RD policy, farmers cannot individually initiate and participate in RD projects of common interest. Therefore, their willingness to contribute in that sense is measured at a mid-term prospect (3–5 years). The farmer's intention to participate in such projects is accentuated in Serbia and Bosnia and Herzegovina (mean 3.4 in both cases), but not relevant in the case of Macedonia (mean 3.0).

Table 1. *Farmer's intentions and correlation with past applications, by country*

	Mean score			Correlation with PA		
	MK	**RS**	**BA**	**MK**	**RS**	**BA**
Intends to apply for RDS in one of the next calls	3.4	3.8	3.3	.424**	.264**	.316**
Intends to apply for individual RDS (next 3-5 yrs)	3.5	3.3	3.6	.353**	.226**	.185**
Intends to participate in joint RD project (next 3-5 yrs)	3.0	3.4	3.4	.087	.156**	.010

Note: Dependent variable PA (past application): "In the last 3 years farmer have applied for the RDS" (1=Yes; 0=No); Statements scale (1=Very weak; 2=Weak; 3=Neutral; 4= Strong; 5=Very strong).
**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

Farmers' intentions are influenced by the past behaviour (application) (Table 1). There is a strong and highly significant relationship between the intentions to use RDS for own benefit,

in all three countries, especially pronounced at immediate calls application (from 0.264 in Serbia to 0.424 in Macedonia), hence implying the positive effect of previous experience upon the disposition for participation in RD programs. The relationship between the intentions to declaratively participate in common RD projects is expectedly not significant in the case of Macedonia and Bosnia and Herzegovina (since there is no direct experience with such project), and significant but with low intensity in the case of Serbia (with a coefficient of 0.156).

Factors influencing farmers' intentions to apply for RDS
The PCA provided the underlying structure of the farmers' opinions regarding RDS and yielded into four components in Serbia and Bosnia and Herzegovina and five components in Macedonia. The total variance explained is 71.15% in Macedonia, 65.42% in Serbia, and 70.31% in Bosnia and Herzegovina. The internal consistency of the components is examined using Cronbach's Alpha. The alpha values indicate reliable grouping into single constructs (all over 0.7), except for perceived behavioural control in Serbia (0.6). The factors were grouped into three logical sets, in line with the applied TPB conceptual framework: farmers' attitudes, subjective norms, and perceived behavioural control (see Table 2).

There are significant differences on the RD opinion statements among the countries ($p<0.05$), as proven by the Kruskal-Wallis test. The Mann-Whitney test confirmed that the Macedonian sample statistically differs from the other two country samples for most statements. This can be explained by the fact that Macedonia has a specific RD policy with EU harmonized institutional organisation (programming and implementation structure). The farmers 'attitudes towards RDS are more comparable in Serbia and Bosnia and Herzegovina, with some statistically significant differences in the subjective norms and perceived behavioural controls.

Attitudes towards RDS
The general attitude towards RDS is positive. This overall encouraging stance is additionally confirmed as over 90% of farmers included in the survey in all countries declare that it is good to have RDS (assessment ranging from 4.2. to 4.5, respectively).

Farmers from all three countries positively assess the use of RDS to develop farms and villages, showing greater enthusiasm when it comes to improving their own farms. This finding should be used when planning RD measures for common projects to be preceded with awareness campaigns and complementary training programs.

The majority of farmers identify the significant role of RDS to the survival of family farms and to improve the income of the farm (mean 4.0 in MK, 3.9 in BA, and 3.6 in RS). The benefits of RD policy in terms of stronger development of rural areas (protection of environment, closer networking, improvement of infrastructure, implementation of EU standards and development of rural tourism) are more emphasized by farmers from Serbia and Bosnia and Herzegovina (the assessment ranging from 3.6 to 3.8, as comparatively in the interval 3.1 to 3.4 in MK). In the past years, there have been a number of programs in Serbia that promoted the importance of rural tourism for the development of the rural areas. This might be the reason why farmers recognize the significance of this specific aspect. The co-financing requirement in RD projects is evaluated as a good motivator (with means ranging from 3.5 in RS and BA to 3.7 in MK).

Correlations between attitudes and behavioural intention. The intention to apply, as a composite score, correlates positively and with significantly at 0.01 level to almost all statements reflecting the attitudes towards the use of RDS. These relationships are almost equally strong through all the attitudinal statements in Serbia. In Bosnia and Herzegovina, the influence of attitudes on the intention is positive, but weaker in intensity. The relationship between attitudes of personal benefits (such as survival of small family farms, and increased

farm income), and the intentions to use RDP for their own farms, is more accentuated among the Macedonian sample.

Subjective norms towards RDS

Farmers especially value the approval of their immediate family (answers ranging from 4.0 in RS to 4.3 in BA). Farmers also acknowledge the opinion of others from their environment, namely people they respect. The influence of other people to pursue them to apply for RDS is rather neutral.

An interesting aspect is whether the farmer decides independently to apply for RDS. In Serbia and Bosnia and Herzegovina, it is mostly the farm manager that makes independent decisions on whether to apply for RDS (mean 4.1 and 4.4, respectively). The respondents in Macedonia usually make such decisions in consultation with the family and with other people they respect (mean 3.1). Farmers in all three countries assess that people they respect provide greater support for the use of RDS for personal benefit, rather than for public benefit. This shows that in rural areas, social norms have an impact on decision-making, and therefore can have an effect on RD policy success.

Correlations between subjective norms and behavioural intention. The impact of social norms on intentions to use RDS is most evident in Serbia (with moderate to weak correlation), followed by Bosnia and Herzegovina. In Macedonia, the intention is mostly affected by the family support.

Perceived behavioural control towards RDS

The personal ability of the farmer (perceived control over information, knowledge and experience to independently prepare the RD application and ability to finance RD investments) is generally assessed as an obstacle. The access and cost of the RDS application (i.e., information, procedure, and documents) are perceived as an additional external barrier. Applications in Macedonia are evaluated as accessible and relatively affordable (mean 3.2), which in practice are supported by the extension services and free of charge. In Serbia and Bosnia and Herzegovina these statements were evaluated less favourably (means from 2.5 in BA to 2.9 in RS). Regarding personal abilities, the Macedonian farmers are the least self-confident (mean 2.1), whereas Bosnian and Serbian are more neutral (means from 2.8 in RS to 3.1 in BA). Macedonian farmers have less own means to co-finance such investments (mean 2.6 compared to 2.9 in RS and 3.1 in BA), but slightly better access to finances (3.2 compared to 3.1 in BA and 3.0 in RS). These findings clearly indicate that the application process must be made simpler and that access to information and credits should be further improved.

Correlations between perceived controls and behavioural intention. The perception of the farmer, whether he has enough information and knowledge to independently prepare an application, is not in significant relation with the intentions in Macedonia and Serbia (mainly due to the mid-term intentions), but is significantly encouraging the intentions in Bosnia and Herzegovina. Otherwise, the intention is in positive correlation with the possibilities for co-financing in all three countries. In Macedonia and Bosnia and Herzegovina, the intention is significantly affected by the costs and preparation of documents, as well as by the possibilities for getting the necessary information.

Table 2. *Attitudes, subjective norms, and perceived behavioural control towards RDS and correlation with the intention to apply for RDS*

	Mean score			Correlation with BI		
	MK	RS	BA	MK	RS	BA
Attitudes						
RDS leads to improvement of the infrastructure in rural areas.	3.4	3.7	3.8	.244**	.432**	.351**
RDS leads to protection of environment and biodiversity.	3.3	3.7	3.8	.149*	.350**	.333**
RDS leads to higher implementation of EU standards.	3.3	3.7	3.6	.226**	.375**	.200**
RDS leads to higher networking of rural population.	3.4	3.6	3.7	.162**	.445**	.203**
RDS leads to stronger development of rural tourism.	3.1	3.8	3.8	.061	.396**	.260**
RDS supports the survival of small family farms.	4.0	3.6	3.9	.431**	.454**	.238**
RDS increases the income of the farms and rural households.	4.0	3.6	4.0	.472**	.457**	.312**
The co-financing principle is good motivator for farmers.	3.7	3.5	3.5	.490**	.585**	.207**
In general, it is good that the state has a RD.	4.5	4.4	4.2	.499**	.442**	.037
Subjective norms						
The decision whether to apply for RDP is totally up to me.	3.1	4.1	4.4	.160**	.328**	.337**
My family approves the application for the RDP.	4.1	4.0	4.3	.532**	.509**	.377**
Other people I respect approve the application for the RDP.	3.6	3.7	3.8	.190**	.548**	.290**
Many people I know pursues me to apply for the RDP call.	3.2	2.7	3.1	.086	.253**	.267**
Perceived behavioural control						
I have enough information to independently apply.	2.2	2.8	3.1	.106	0.005	.410**
My knowledge and experience is enough to independently prepare the application (procedure and documents).	2.1	2.9	3.1	.080	0.071	.387**
I have enough own means to co-finance an RDP investment.	2.6	2.9	3.1	.301**	.173**	.344**
I am able to get bank credit to co-finance the investment.	3.2	3.1	3.0	.331**	.250**	.375**
I can easily get credit.	3.5	2.6	2.7	.310**	.129*	.352**
The RDS application (procedure and documents) is easy.	3.2	2.6	2.5	.343**	-.045	.244**
The preparation of the RDS application is not expensive.	3.2	2.9	2.6	.259**	-.074	.173**
The information regarding the RD program is easy to get.	3.3	2.9	2.8	.261**	.086	.315**

Note: Dependent variable BI (behavioural intention) as a composite mean score of "I intend to apply for RDS in one of the next calls", "I intend to apply for individual RDS (next 3-5 yrs)" and "I intend to participate in joint RD project (next 3-5 yrs)"; Statements scale (1=Strongly disagree; 2=Disagree; 3=Neutral; 4= Agree; 5=Strongly agree).
**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

The relationship between socioeconomic caracteristics and previous RDS experience

The relationship between the socio-economic status and the past application for RDS is analysed, in order to recognize the different interaction of factors influencing the RDS utilization. The analysis shows a significant correlation between some variables. Education is an important factor that influenced Macedonian and Serbian farmers' decision to apply for rural development grants, meaning that farmers with higher education levels have more intensively applied for RDS. In addition, in Serbia, the farmers who applied for the RDS are those that sell a higher share of their farm production on the market, who have higher share of the household income generated from farming activities. In Bosnia and Herzegovina, the farmers' decision to apply for RDS in the past was influenced by several factors: the primary occupation of the head of the household, the size of the household, the level of farm commercialization, and the proportion of household's income from agricultural activities.

Table 3. *Farmers' socio-economic characteristics and correlation with past application*

	Mean score			Correlation with PA		
	MK	RS	BA	MK	RS	BA
Education [A)]	10.1	10.8	11.6	.143*	.144*	.053
Number of household members	4.9	5.3	4.1	.039	-.010	.185**
Primary occupation (agricultural in %) [B)]	98.3	76.6	54.6	.004	-.079	-.235**
Agricultural production sold on market (%)	96.4	59.1	69.9	-.051	.136*	.103
Household income from farming (%)	90.2	58.1	64.9	.022	.113	.217**
Likelihood to farm in the next 3-5 years [C)]	4.6	4.4	4.5	.163**	.146*	.213**
Plan to invest on the farm in the next 3-5 years [C)]	3.5	4.0	3.4	.193**	.187**	.105
Identified successor of the farm [C)]	2.9	3.1	3.0	.211**	-.056	.133*
Farm profitability in the last 3 years [D)]	3.3	3.4	3.4	.298**	.176**	.101
Dependency on subsidies to break-even [E)]	2.0	2.1	2.8	.122*	-.037	.084

Note: Dependent variable PA (past application): "In the last 3 years farmer have applied for the RDS" (1=Yes; 0=No); A: 1=Primary school (4 years); 2=Primary school (8 years); 3=High school (3-4 years); 4=College (2 years); 5=University (4 years); B: 1=Agriculture; 2=Other; C: 1=Definitely not; 2=Unlikely; 3=Not sure; 4=Very likely; 5=Definitely yes; D: 1=Very unprofitable; 2=Moderately unprofitable; 3=Break-even; 4= Moderately profitable; 5=Very profitable; E: 1=Not dependant; 2=Slightly dependant; 3=Very dependant.
C, D, E non-parametric correlation, all other Pearson correlation.
**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

In all three countries, farmers who are more likely to stay in agriculture have already mostly applied for RDS which shows their entrepreneurial orientation and commitment. It suggests that the farmers see perspective in agriculture and that they are ready to take steps in this direction, including investments. In Macedonia, all analysed factors linked to the farm perspective and perceived profitability positively and significantly relate to the farmers' decisions. In Serbia, in addition to the likelihood to stay farming in the near future, other factors of importance are farm profitability and the plan to invest on the farm, whereas Bosnian farms that identified a successor have somewhat more intensively applied for RDS.

Conclusions
In this paper, we attempted to explain the importance and correlation of certain factors that shape farmers' motivation to apply for RDS. The farmers in all countries generally intend to apply and use RDS, but farmers with positive attitudes in terms of personal and public RD policy benefits are more inclined to participate in RDS schemes. Subjective norms, especially manifested through the support of the immediate family, are particularly important when it comes to the willingness to use the funds. The perceived controls are also stimulating in terms of enhanced use, especially those related to co-financing and access to information. Generally, the factors that are related with farmer and household characteristics seem to be less pronounced; education, farm profitability, likelihood to continue farming, and the willingness to invest positively correlate with the past application for RDS in Macedonia and Serbia. In Bosnia and Herzegovina, the characteristics that are linked to past applications are the likelihood to continue farming, household size, primary education of farm holder, and household income from farming.
All these findings confirm the importance and the need of RDS for farmers. What is even more important is the recognition of their readiness to use these funds once the obstacles are mitigated. This should encourage further development of the agricultural and rural development policy and informative campaigns. These results are important to reference future policy developments in defining targets and more efficient information campaigns as critical success factors of any RDS.

Acknowledgement

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