



ЦЕНТЪР ЗА ИКОНОМИЧЕСКИ АНАЛИЗИ НА СЕЛСКОТО СТОПАНСТВО (САРА)

CENTER FOR AGRI-POLICY ANALYSIS (CAPA)



The Role of Agriculture for Income and Employment in the Bulgarian Rural Areas

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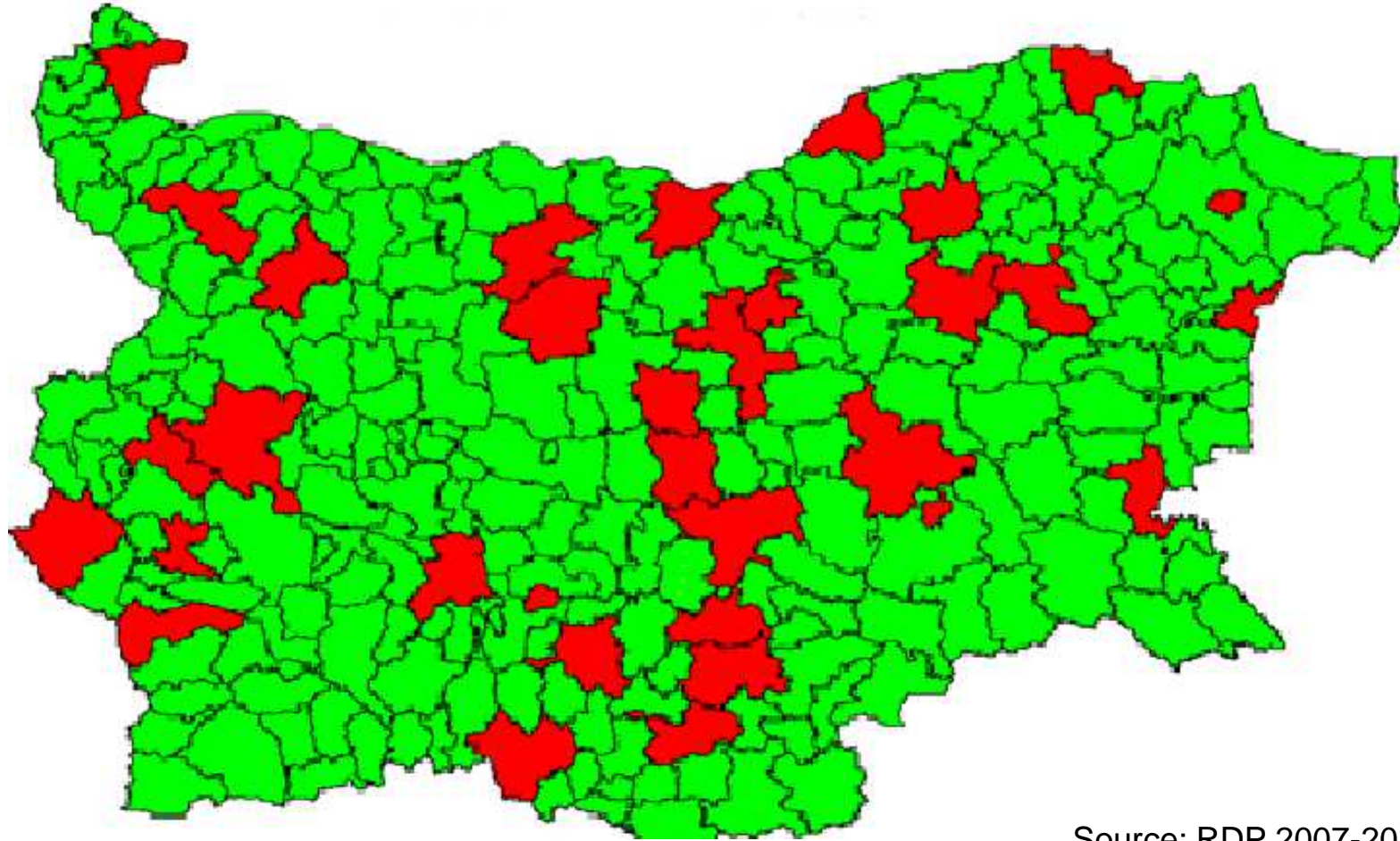
Contents

- **Introduction** - rural area definitions and classification, main characteristics, unemployment;
- **Aims**
- **Methods and data;**
- **Main results;**
- **Conclusions**




Rural areas – national and EU definitions

- **81,4%** of the national territory is defined as a Rural area (231 municipalities -LAU 1 level). According to the national definition each municipality which biggest city is with less than 30 000 people is a rural area.
42% of the Bulgarian population lives in these areas.
- The EU qualification is on NUTS 3 level (28 regions in Bulgaria) and has three categories – predominantly rural (15), intermediate (12) and predominantly urban (1), defined in three steps (EU Methodology).
- Agriculture has high importance in Rural areas – 17% of GVA and 33% of the employed people in the predominantly rural areas



Source: RDP 2007-2013

 Rural area – National definition

 Urban area – National definition

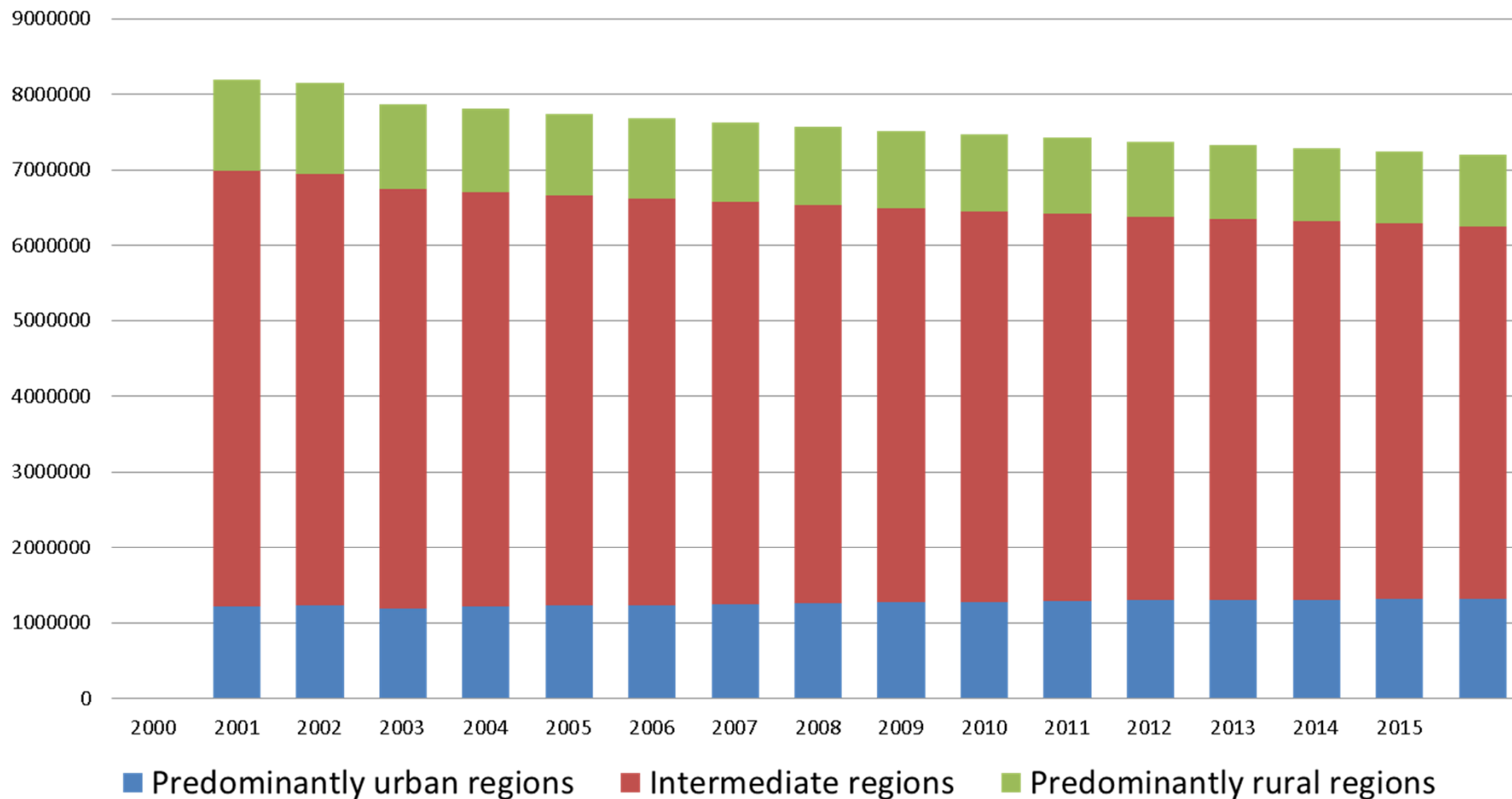


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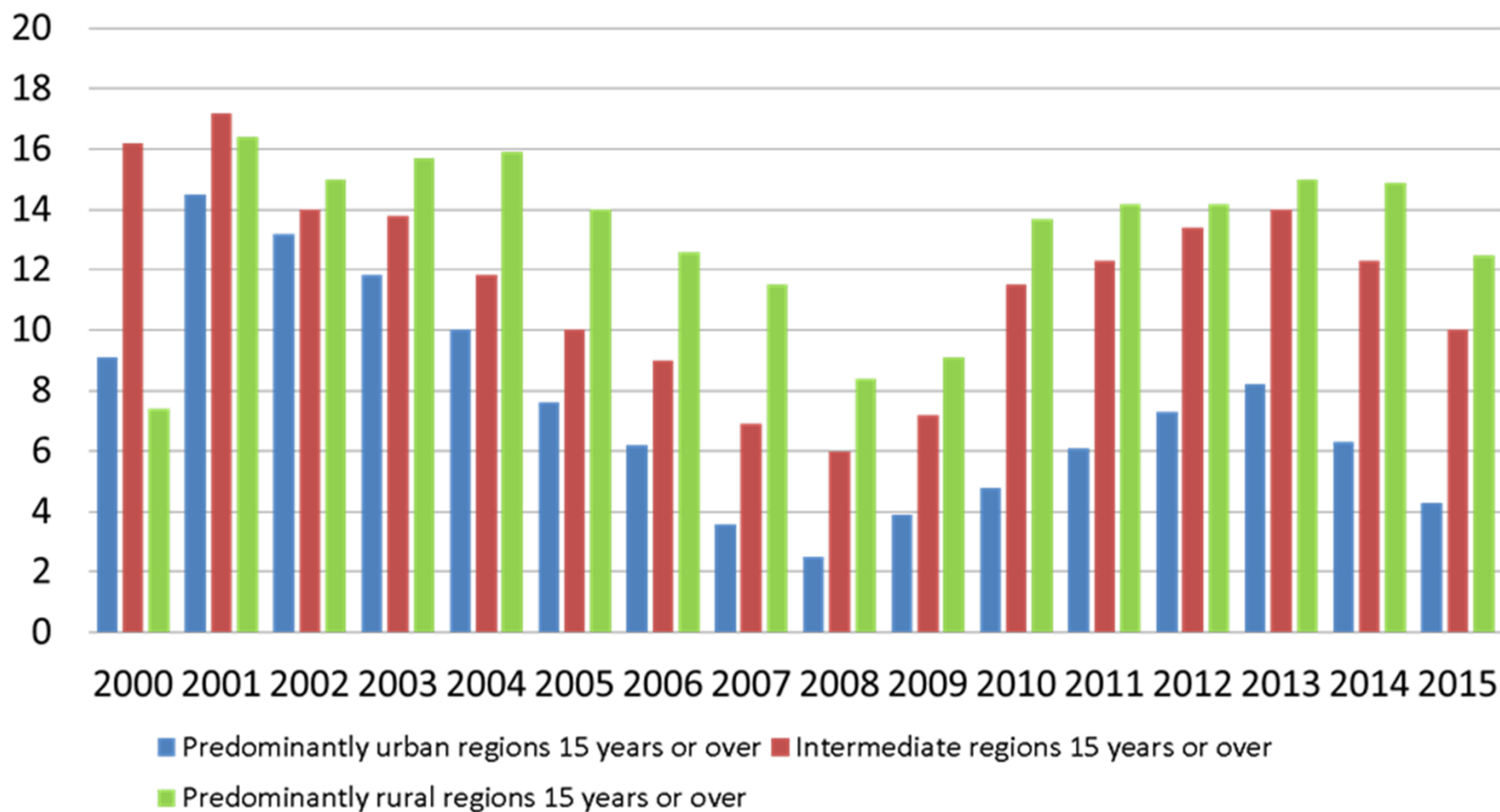
Population



Source: Eurostat



Unemployment, %



Source: Eurostat



The main goals are:

- To analyze how the changes in production structure of Bulgarian agriculture weigh on the employment development and income growth in the rural areas;
- To explore the coexistence of relatively high unemployment in rural areas with demand of labor in the agriculture;
- To determine the current and prospective contribution of agriculture to the income development and employment opportunities in the Bulgarian rural areas.



Methods and data (1)

- **Correlation and factor analysis**
- **Model 1.**

Analyzing the correlation between **Var 1-Unemployment rate (15+ years, %)** in the predominantly rural areas and the following factors:

- Var 2-Population in the predominantly rural areas;
- Var 3-Education – primary or lower (25-64 age group, %);
- Var 4-Structural ratio – extensive/intensive sectors;
- Var 5-Average salary in the economy;
- Var 6-Average remuneration of labour in the agriculture;
- Var 7-GDP growth



Methods and data (2)

- **Model 2.**

Analyzing the correlation between **Var 1- Remuneration of labour in the agriculture (mil. Euro)** in the predominantly rural areas and the following factors:

- Var 2-GVA/employed in predominantly rural areas;
 - Var 3-Education – primary or lower (25-64 age group, %);
 - Var 4-Structural ratio – extensive/intensive sectors;
 - Var 5-Population in the predominantly rural areas;
 - Var 6-Factor income in agriculture (mil. Euro);
 - Var 7-Number of farms;
 - Var 8-Number of employees in agriculture (thousand AWU)
- The data used in the analysis covers the period 2000-2015. the main sources are Eurostat and National Statistical Institute of Bulgaria.



Results (1)

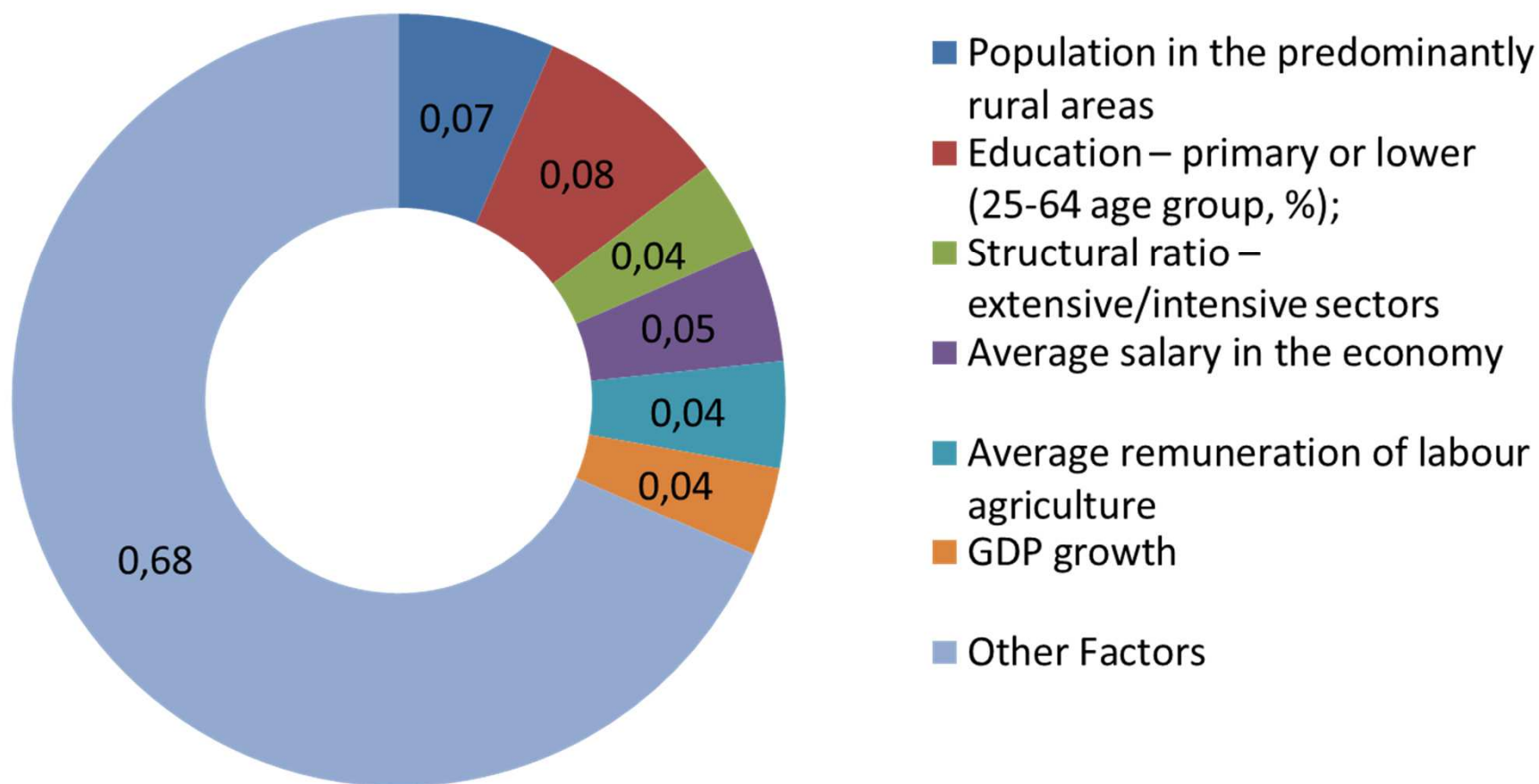
Model 1. Correlation matrix

	% Unemployment rate (Age 15+)	Population in the predominantly rural areas	Education – primary or lower (25-64 age group, %)	Structural ratio – extensive/intensive sectors	Average salary in the economy	Average remuneration of labour agriculture	GDP growth
% Unemployment rate (Age 15+)	1						
Population in the predominantly rural areas	-0,062	1					
Education – primary or lower (25-64 age group, %);	-0,044	0,898	1				
Structural ratio – extensive/intensive sectors	0,155	-0,873	-0,964	1			
Average salary in the economy	-0,014	-0,920	-0,976	0,965	1		
Average remuneration of labour agriculture	0,031	-0,892	-0,984	0,975	0,994	1	
GDP growth	-0,014	0,844	0,751	-0,790	-0,818	-0,780	1



Results(2)

- **Model 2. Factor Importance**





Results (3)

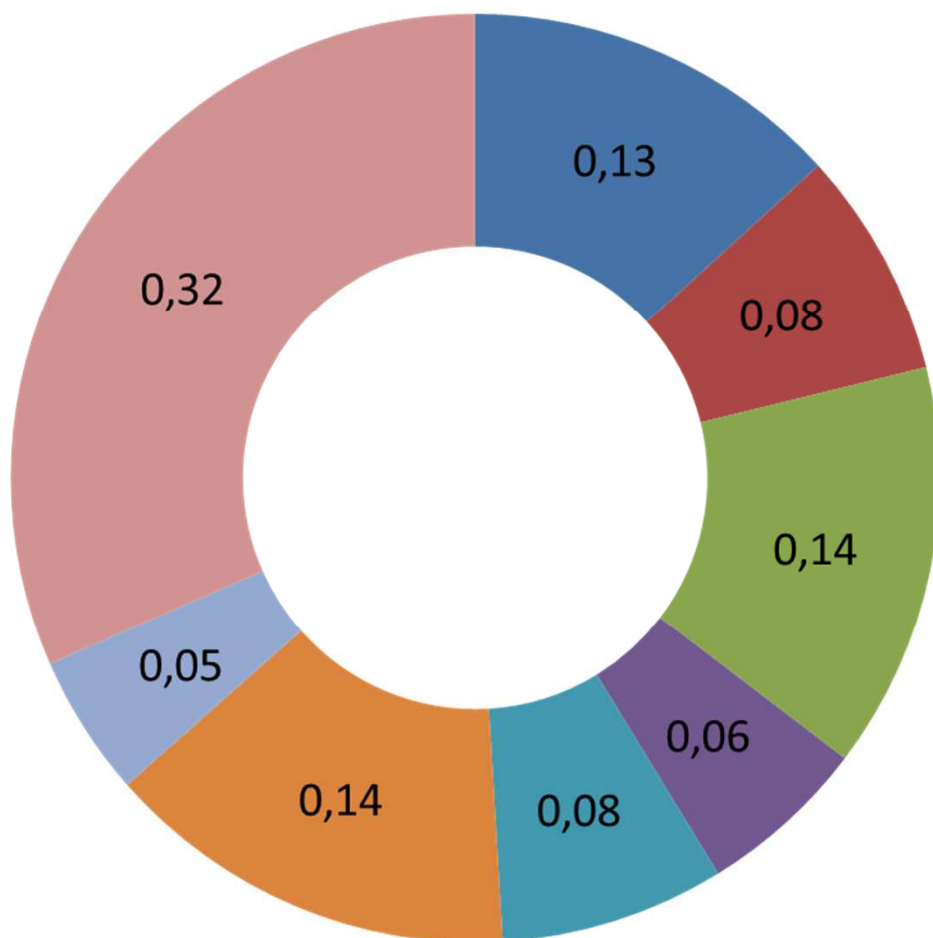
Model 2. Correlation matrix

	Remuneration of labour in the agriculture (mil. Euro)	GVA/employed in predominantly rural areas	Education – primary or lower (25-64 age group, %)	Structural ratio – extensive/intensive sectors	Population in the predominantly rural areas	Factor income in agriculture (mil. Euro)	Number of farms	Number of employees in agriculture (thousand AWU)
Remuneration of labour in the agriculture (mil. Euro)	1,000							
GVA/employed in predominantly rural areas	0,903	1,000						
Education – primary or lower (25-64 age group, %)	-0,956	-0,964	1,000					
Structural ratio – extensive/intensive sectors	0,938	0,945	-0,964	1,000				
Population in the predominantly rural areas	-0,829	-0,952	0,898	-0,873	1,000			
Factor income in agriculture (mil. Euro)	0,704	0,634	-0,660	0,705	-0,521	1,000		
Number of farms	-0,942	-0,986	0,984	-0,969	0,940	-0,663	1,000	
Number of employees in agriculture (thousand AWU)	-0,276	-0,412	0,305	-0,343	0,213	-0,356	0,342	1,000



Results(4)

- **Model 2. Factor Importance**

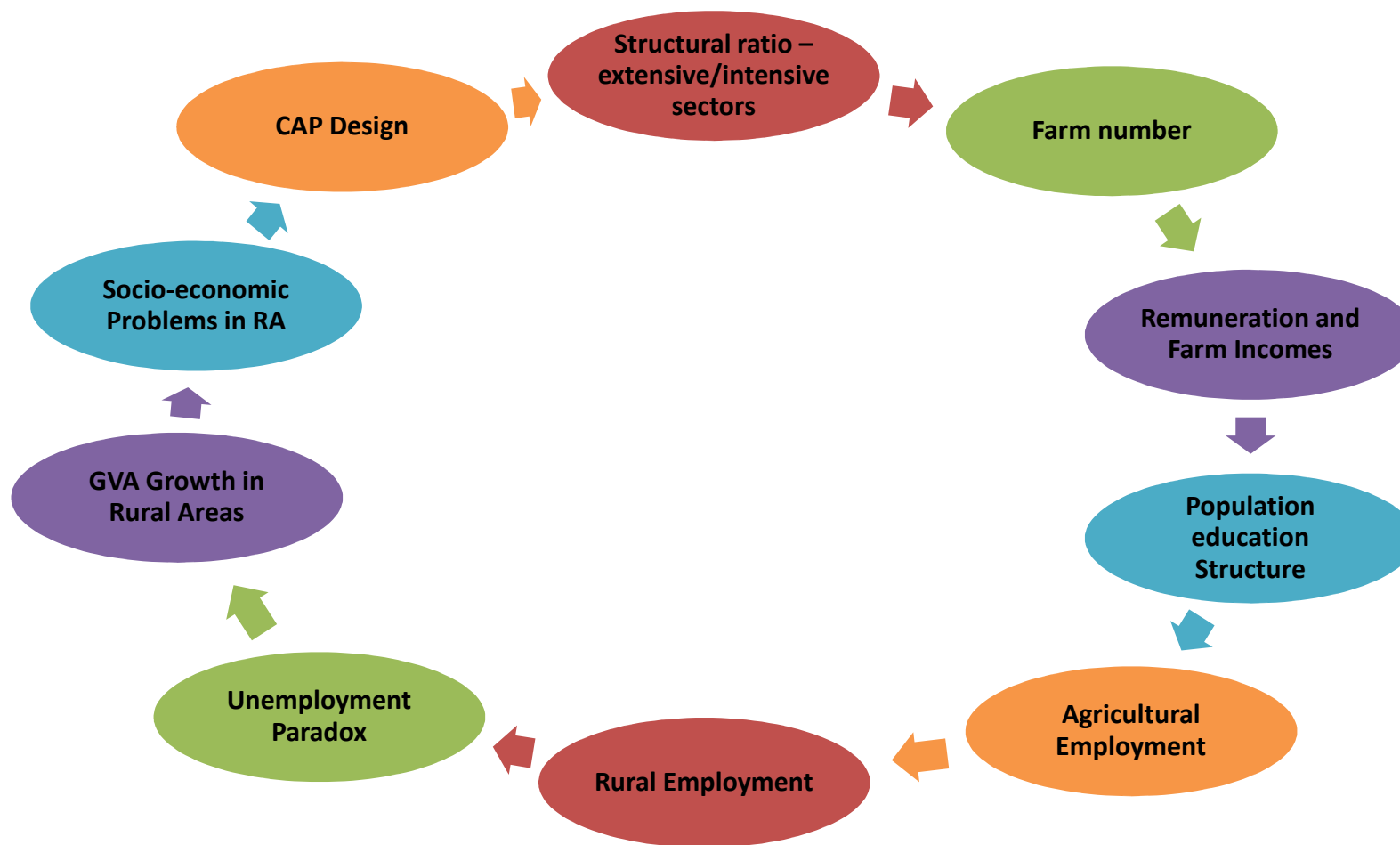


- GVA/employed in predominantly rural areas
- Education – primary or lower (25-64 age group, %)
- Structural ratio – extensive/intensive sectors
- Population in the predominantly rural areas
- Factor income in agriculture (mil. Euro)
- Number of farms
- Number of employees in agriculture (thousand AWU)
- Other Factors



Conclusions(1)

The Role of Agriculture for Income and Employment Development





Conclusions (2)

- The change of the production structure of the Bulgarian agriculture – the increasing importance of the extensive sectors – has a minimal impact on the unemployment rate. However its sign indicates that the increasing of the crop production that requires more capital and less labor has a negative effect on the employment in the rural areas.
- The structural change also has an impact on the number of farms. Smaller farmers exit the agricultural production and bigger field crop producing farms increase the land they use.
- The remuneration of employed in agriculture is strongly correlated with all analyzed factors, but the strongest with the education level, number of farms and and the labor productivity (GVA/employed) in rural areas.
- The structure of Bulgarian agriculture and the growing share of extensive crop production are strongly correlated to the higher labour productivity and higher remuneration.



Conclusions (3)

- One of the major issues for the development of horticulture and livestock production is the lack of labour. Although the unemployment in the rural areas is higher than the one in urban or intermediate areas, there is no sufficient labour supply.
- The unemployment rates in the rural areas show very weak correlation with the main analyzed factors, which means that there are other more important factors for the high level of unemployment that should be further researched. This is also one of the symptoms of the evident unemployment paradox.
- The Agriculture has an important role for the employment and GVA in rural areas, however its growth is slower than the other sectors. The unemployment paradox has socio-economic effects and it is addressed and should be addressed in the future CAP.



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Thank you!

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