



14th ERDN Conference
Budapest, 3-5 October 2016



COMPETITIVENESS AND INNOVATION IN RURAL ROMANIA



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1. Romanian regional competitiveness – an overview – (1/3)

Regional approach

**REGIONAL
COMPETITIVENESS**



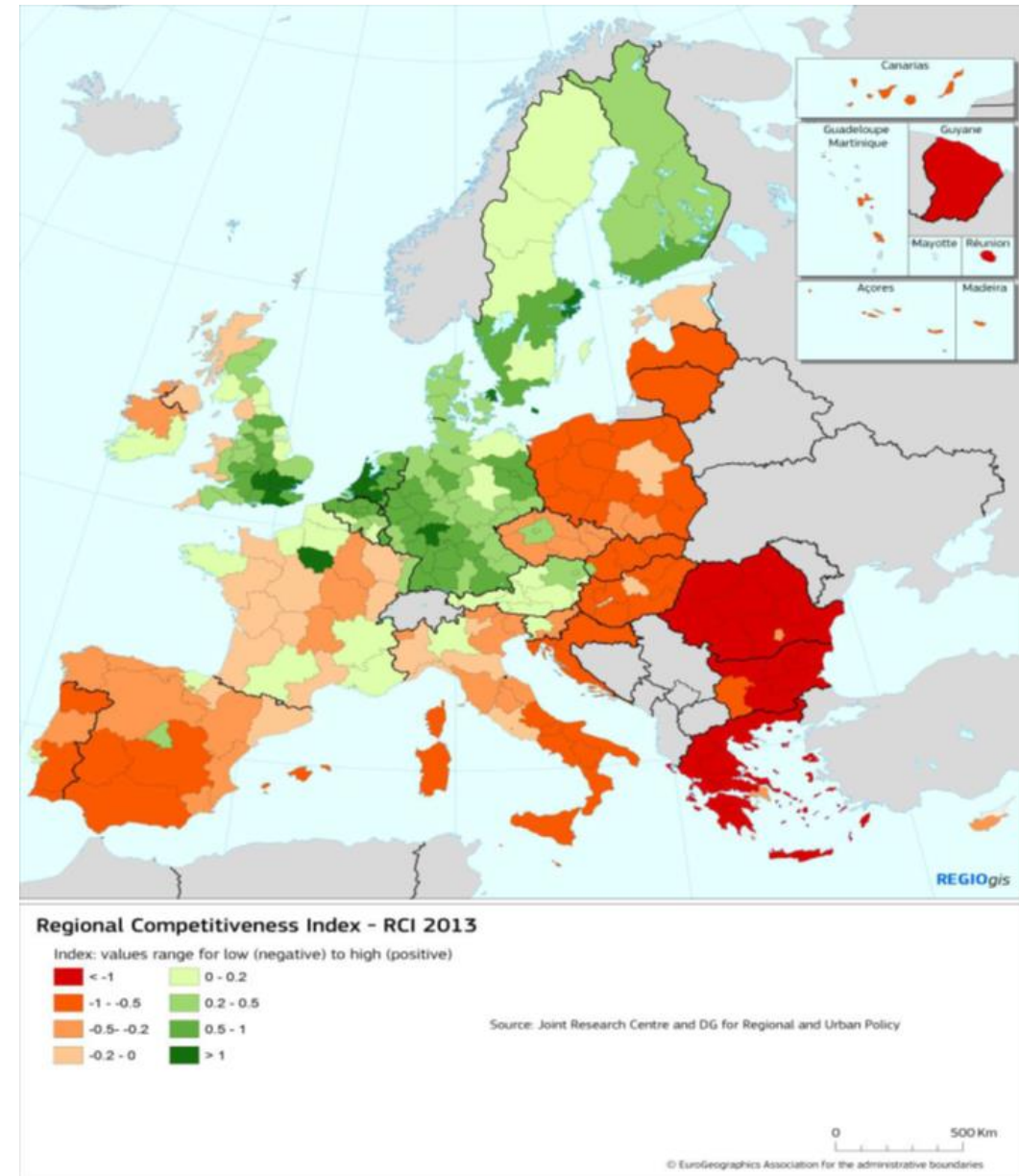
the ability of regions to promote, attract and support economic activity so that their population to attain and quip a higher standard of living

1. Romanian regional competitiveness – an overview – (2/3)

Regional Competitiveness Index (RCI)

methodology developed by the EC built on 3 pillars
(Joint Research Centre - EU Regional Competitiveness Index):

- Basic pillars:** quality of institutions, macro-economic stability, infrastructure, health & basic education
 - Efficiency pillars:** Higher education, labour market efficiency, market size
 - Innovation pillars:** technological readiness, business sophistication, innovation
- **7 from 8** NUTS 2 regions of Romania - **lowest level of RCI compared with the EU average**
 - **only for Bucharest region (capital city included), RCI is close to the EU average**



1. Romanian regional competitiveness – an overview – (3/3)

**3 Romanian NUTS 2 regions
are in the bottom 10 EU regions ranking
according to RCI**

Top 10	Region (NUTS code)	RCI 2013	Bottom 10	Region (NUTS code)	RCI 2013
1	Utrecht (NL31)	100.0	257	Peloponnisos (EL25)	5.1
2	London area (UKH2, UKH3, UKI1 and UKI2) ⁽²⁾	94.2	258	Sud-Vest Oltenia (RO41)	4.2
3	Berkshire, Buckinghamshire and Oxfordshire (UKJ1)	93.5	259	Centru (RO12)	4.2
4	Stockholm (SE11)	92.7	260	Anatoliki Makedonia, Thraki (EL11)	3.9
5	Surrey, East and West Sussex (UKJ2)	90.7	261	Notio Aigaio (EL42)	3.7
6	Amsterdam area (NL23 and NL32) ⁽³⁾	90.1	262	Dytiki Makedonia (EL13)	2.8
7	Darmstadt (DE71)	89.2	263	Yugoiztochen (BG34)	2.7
8	Île de France (FR10)	89.1	264	Stereia Ellada (EL24)	2.2
9	Hovedstaden (DK01)	88.8	265	Sud-Est (RO22)	0.1
10	Zuid-Holland (NL33)	87.6	266	Severozapaden (BG31)	0.0

⁽¹⁾ Chemnitz (DED4), Leipzig (DED5), Emilia-Romagna (ITH5), Marche (IT13), Cheshire (UKD6) and Merseyside (UKD7): estimates based on the NUTS 2006 classification.

⁽²⁾ Aggregated data to take account of commuting patterns, comprising: Bedfordshire and Hertfordshire (UKH2), Essex (UKH3), Inner London (UKI1) and Outer London (UKI2).

⁽³⁾ Aggregated data to take account of commuting patterns, comprising: Flevoland (NL23) and Noord-Holland (NL32).

Source: European Commission (Joint Research Centre and Directorate-General for Regional and Urban Policy)

2. Working hypothesis

- I. The competitiveness of the predominantly rural regions in Romania is lower than the national average
- II. The weak development of the RDI sectors at regional level significantly impacts the competitiveness level

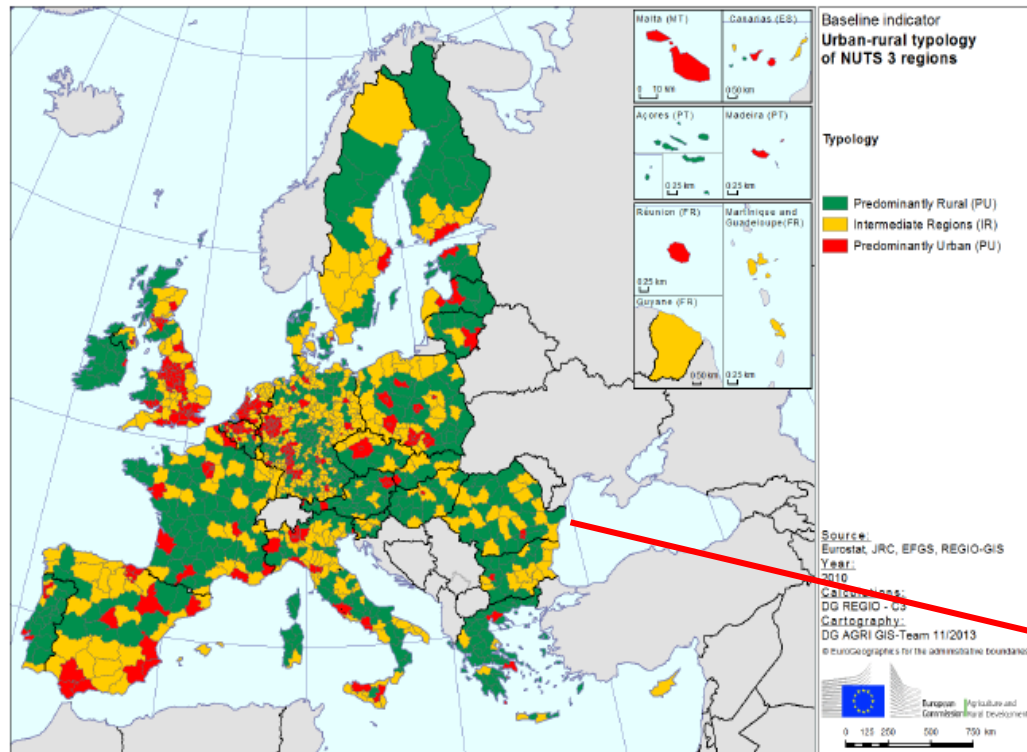
LEVEL OF STUDY : NUTS 3

why ?

NUTS 3 level regions are more homogenous

The disaggregated analysis at NUTS 3 level:
- *could better explain the territorial disparities*
&
- *enable better targeted for public intervention*

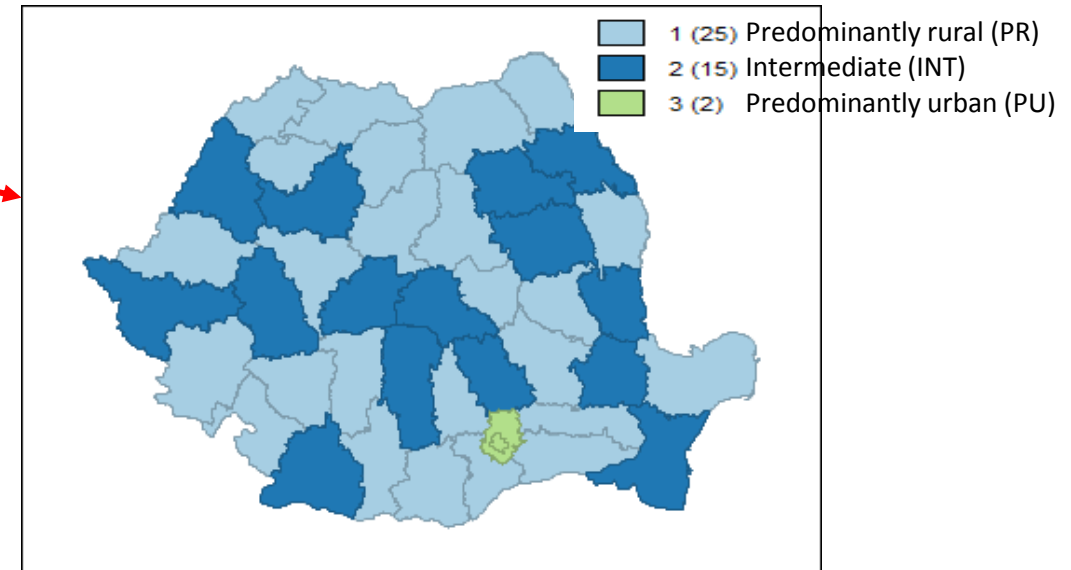
Map 4 – Urban-rural typology of NUTS 3 regions



(...why NUTS 3 ?)

- Romania is one of the most rural countries in the EU (from 42 NUTS 3 regions, only 2 are classified as “predominantly urban”)

Urban – Rural typology of NUTS 3 regions in Romania



Importance of *predominantly rural* (PR) and *intermediate* (INT) NUTS 3 regions in Romania and across groups of European countries

	% in territory		% in population		% GVA		% employment	
	PR	INT	PR	INT	PR	INT	PR	INT
EU-27	51.6	38.4	22.6	35.1	15.6	30.0	20.6	33.9
EU-15	49.8	39.1	18.1	34.1	14.3	29.5	16.7	33.0
EU-N12	57.2	36.2	39.8	38.8	28.7	35.4	36.0	37.5
Romania	59.8	39.4	45.6	43.8	32.7	42.1	41.8	46.2

3. Methodological approach-*Rural competitiveness index*-

O. Mikuš, R. Franić and I. Grgić (2012) *The evaluation of rural competitiveness in creating a policy of rural development in Croatia*, Journal of Food, Agriculture & Environment, (measure the territorial disparities in regional competitiveness)

We adopted this model according to the available data in Romania at NUTS 3 level

Adapted competitiveness evaluation matrix at NUTS 3 level

Group / Indicators	
Group I.– Human resources	
1.1. Employed population (thou. pers.)	1.3. Young population 0-20 years (pers.)
1.2. Population with higher education (pers.)	1.4. Population density (pers./km ²)
Group II.– Situation of the non-agricultural sector economy	
2.1. Turnover (thousand euro)	2.3. Density of active local units (no. of active local units /1000 inhabitants)
2.2. Value of exports (thou. euro)	2.4. Net average wage (euro)
Group III. - Situation of agricultural sector economy	
3.1. Average farm size (ha UAA /farm)	3.4. Density of active local units (no. of active local units /1000 inhabitants)
3.2. Turnover (thousand euro)	3.5. Net average wage (euro)
3.3. Value of exports (thousand euro)	
Group IV. – Specialization and innovation	
4.1. Share of population employed in non-agricultural sectors	4.3. Share of crop production value in total agricultural production value
4.2. RDI employees / 10,000 civilian employees	

Calculation formula for the competitiveness indicators (rural competitiveness index components)

$$X_i = 100 (x_i / X) / (p_i / P), \text{ where:}$$

x_i – the value of variable at NUTS 3 level

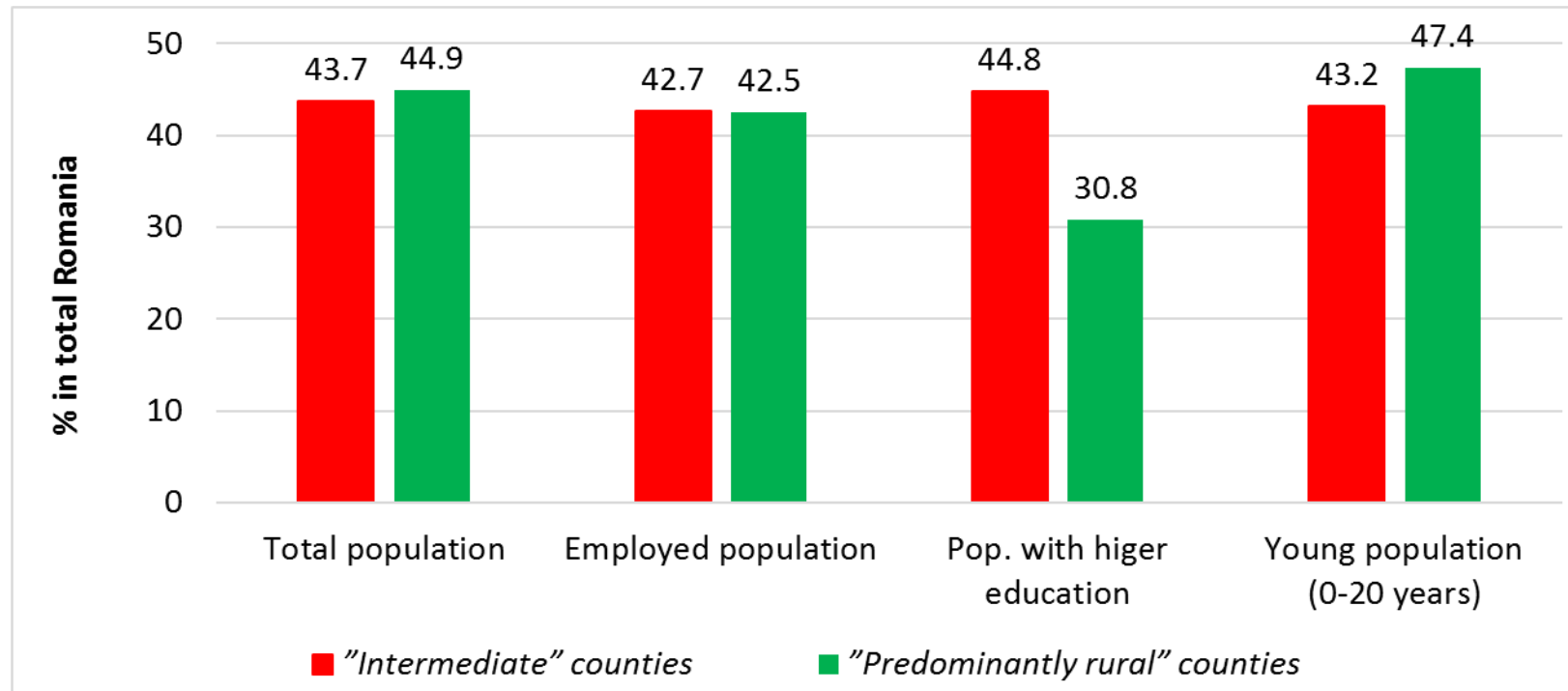
X – the value of variable at national level

p_i – the number of inhabitants at NUTS 3 level

P – the number of inhabitants at national level

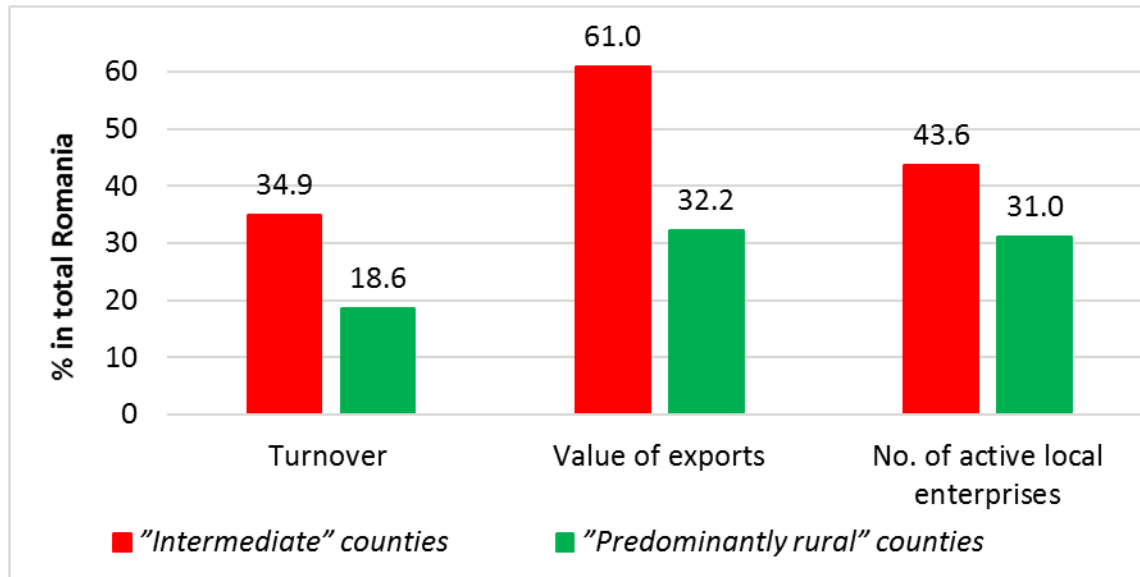
4. Rural competitiveness at Romanian NUTS 3 level regions (1/4)

Group I – *Human resources*

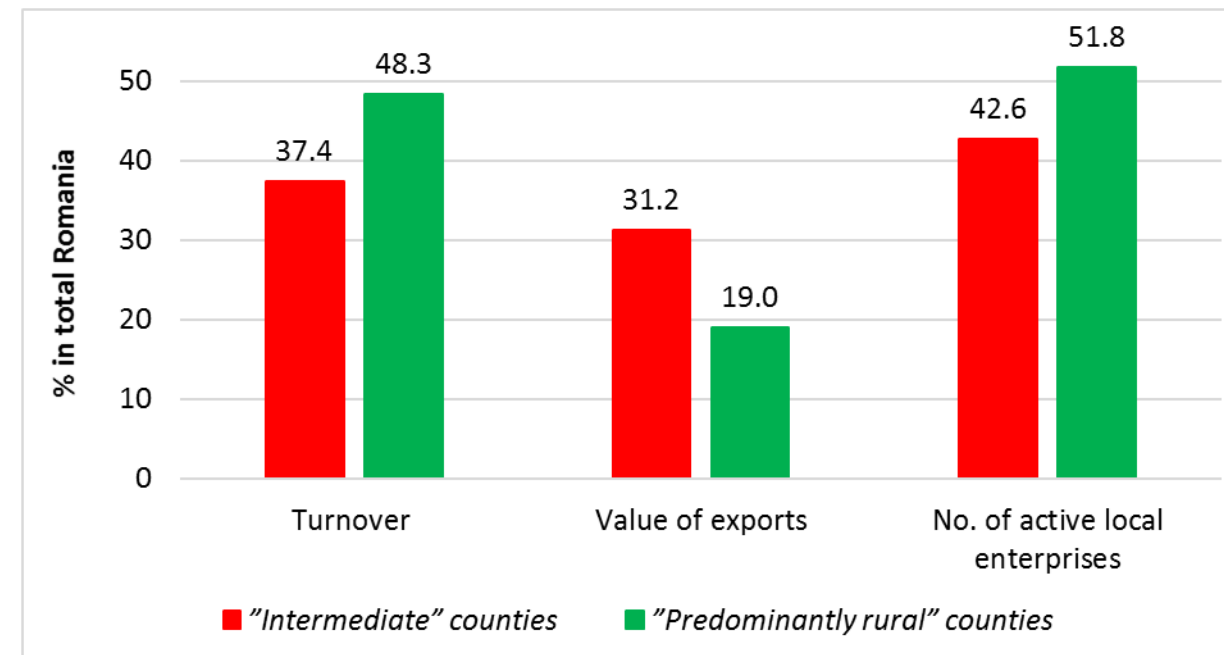


4. Rural competitiveness at Romanian NUTS 3 level regions (2/4)

Group II – *Situation of the non-agricultural sector economy*

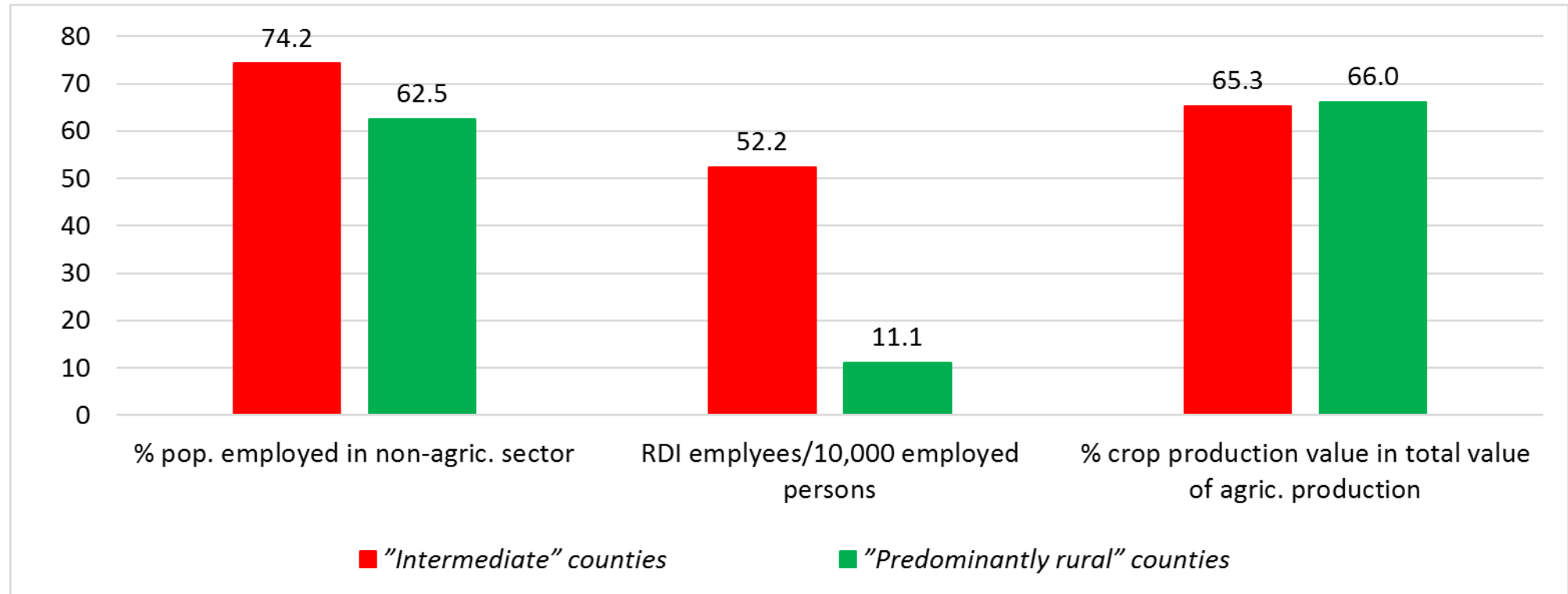


Group III – *Situation of the agricultural sector economy*



4. Rural competitiveness at Romanian NUTS 3 level regions (3/4)

Group IV – *Specialization and innovation*



4. RCI (4/4)

Rural competitiveness index (RCI)

- predominantly rural (PR)
- intermediate (INT) regions

Group / Indicators	Rural competitiveness indicators (X _i) for:	
	INT	PR
Group I. – Human resources		
Employed population (thou. persons)	97.67	94.67
Population with higher education (pers.)	102.52	68.60
Young population 0-20 years (pers.)	98.93	105.61
Population density (pers./km ²)	110.76	75.06
Average of indicators in Group I (SI₁)	102.47	85.98
Group II. – Non-agricultural sector economy situation		
Turnover (thousand euro)	79.81	41.47
Value of exports (thousand euro)	139.65	71.75
Density of local active units (no. of local active units / 1000 inhabitants)	99.94	69.21
Net average wage (euro)	94.47	82.24
Average of indicators in Group II (SI₂)	103.47	66.17
Group III – Agricultural sector economy situation		
Average farm size (ha UAA /farm)	102.73	98.36
Turnover (thousand euro)	85.57	107.69
Value of exports (thousand euro)	71.55	42.29
Density of local active units (no. of local active units /1000 inhabitants)	97.68	115.47
Net average wage (euro)	100.71	96.83
Average of indicators in Group III (SI₃)	91.65	92.13
Group IV– Specialization and innovation		
% employed pop. In non-agricultural sectors	102.11	86.01
No. of RDI employees in 10000 employees	102.44	21.69
% crop production value in total agricultural production value	99.25	100.31
Average of indicators in Group IV (SI₄)	101.27	69.34
Rural competitiveness index (RCI)	99.71	78.40

5. Concluding remarks

- I. In Romania the economy of the predominantly rural regions is less competitive than the economy of the intermediate regions.
- II. The **factors** that largely contribute to the **amplification of territorial rural competitiveness disparities** between the two categories of NUTS 3 regions in Romania are the following:
 - **size of staff involved in RDI activities** - *that contributes to the comparative advantage of the access to innovation*
 - **value of exports, both in the non-agricultural and agri-food economy**, *which certifies the competitive advantage of the regional economies on the world markets.*

Thank you for attention !

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