The geographical distribution of unemployment at localities desegregation level case study for South Muntenia Region - Romania

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Abstract

The recent "The fifth Cohesion Report" stress the strategic perspective of the new cohesion policy, expressed by the „added territorial cohesion to the twin goals of economic and social cohesion".[2] The expected contribution of the cohesion policy is strongly linked with passing over the crises, reducing the disparities and fulfilling the ambitious objectives of the Europe 2020 Strategy.

Unemployment represents the reverse of the medal, a concept and a measure at the intersection of many dimensions. If "traditionally" its history is concurrent with free market/ market economy functioning out of full employment mode, expressing socio-economic phenomenon, complex and with a large spectrum of interpretations. The spatial dimension of the unemployment is treated relatively recently by new regional theories, focused on its: geographical/spatial concentration [Alonso-Villar O. and Del Río C (2008)], agglomeration, returns and spatial unemployment disparities [Suedekum J. (2004)] with aspects of dynamic [Martin R. (1997)], persistence, factors, regional policy rethinking [Chisholm M. (1976)], convergence/divergence of regional disparities [Marshall (1920), Krugman (1991) and Krugman/Venables (1995)), etc]. Overman and Puga (2002) bring empirical evidences regarding the spatial effects of „Unemployment clusters across European regions and countries".

Following Niebuhr idea, measuring the spatial autocorrelation, **„regions marked by high unemployment as well as areas characterised by low unemployment tend to cluster in space"**[3] [Niebuhr, 2005] we try to analyse the case of intra-regional unemployment disparities at the region level (NUTS2 level - in the case of Regiunea Sud Muntenia) using the finest disaggregated level possible for data - the localities. The interest to measure the intraregional unemployment clusters is based on [Goschin, Roman, Ileanu, 2008] characteristic of the current state and dynamics of regional disparities in Romania descried as "**low amplitude of both inter-regional and intra-regional disparities"**, with the nuance that, "the **intra-regional disparities are much higher than the inter-regional disparities.**"[4] Next to agglomeration and persistence of unemployment in some specific areas, the crises period and its persistence in 2009-2010, accentuated the European tendency of increasing the „regional disparities" [5]. In Romania, view to adapt to the crise pressure since 2010 started an massive proces of budgetry sector restructuring, folowed by important exists from employment to

[1] National Research Institute For Labour And Social Protection, Bucharest Romania – INCSMPS

[2] Investing in Europe's Future, Fifth Report on Economic, Social and Territorial Cohesion, European Commission, http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/index_en.cfm, November 2010,

[3] *Annekatrin Niebuhr,* Spatial Interaction and Regional Unemployment in Europe, European Journal of Spatial Development- http://www.nordregio.se/EJSD/-ISSN 1650-9544-Refereed Articles
Oct 2003-no 5

[4] Zizi Goschin, Daniela-L. Constantin, Monica Roman, Bogdan Ileanu, THE CURRENT STATE AND DYNAMICS OF REGIONAL DISPARITIES IN ROMANIA, Romanian Journal of Regional Science, Vol.2 No.2. Winter, 2008, 80-105

[5] ***, Cohesion policy: Strategic Report 2010 on the implementation of the programmes 2007-2013, SEC(2010)360, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS, Brussels, 31.3.2010 COM(2010)110 final

unemployment. This significant number of persons withowt a job relatively suddent increase the pressure over the labour market insitutions and diminish the dynamics of the labout market (induced by the limited occupational mobility) and acts as an shoc (intens and or long time pressure probability) very difficult to be compensated in time by policies.
The variables are built with one set of reference data and one set of working data, all for the characteristics: age 18-62 years (total, feminin and masculin (calculated). The reference data is furnised by National Statistics Institute INS demographic data, respectively the number of the stable population registered in the locality considered as contant through analysis period. The working data is furnised by the ANOFM/AJOFM (National Employment Agency) and covers 567 localities from the total of 2121 localities from Region Sud Muntenia, including the number of registered unemployed people under the administrative definiton (unemployed people with indemnisation and withowt indemnisation), for the characteristic total, female and males (calculated). The secondary working data set is represented by the share of the unemployed people as a proxy for the unemployment rate. Using the administrative data there are some disadvantages and advantages. Some limits of this method induced by the indicators source: reduced comparability, national unemployment definition, the statistical quality of data, the interval of 18-62 years represent the functional age for entrance and exist in and out the labour market in Romania. We consider very important to emphasis the advantages of this approach especially in the cohesion policy future development, like: the data are public, covers the finest regional level (localities, over LAU /2, 3174), are furnished with the best frequency among the labour market indicators - monthly frequency, are the main indicators used in the labour protection policy implementation, etc. Another very important advantage is the perspective of using the flux data (entrance and exits in unemployment at the localities level) next to the stoc data we used in our model.

The method used is Anselin, 2005[6]/ Varga, 2009[7], analysing the Local Spatial Autocorrelations characteristics, to identify the clusters HH, LL with different significance level, for the unemployment and the share of unemployment in the stable population for the mentioned characteristics (total, feminine, masculine, age 18-62 years, at locality level), for December 2009 compared with March 2010, at locality level using Arc GIS 9.3. (Arc GIS Catalog and Arc MAP)[8]. Spatial econometrics through the GeoDa software[9] was applied under the hypothesis that localities represent the centres of the Thiessen polygons, using rook contiguity weight file. Results are presented through maps and tables indicated the localities situated in the HH and LL clusters.

Key words: regional unemployment, spatial analysis, spatial concentration, defavorised areas

[6] Luc Anselin, Exploring Spatial Data with GeoDaTM : A Workbook Spatial Analysis Laboratory Department of Geography University of Illinois, Urbana-Champaign Urbana, IL 61801, http://sal.uiuc.edu/Pg.6, Center for Spatially Integrated Social Science http://www.csiss.org/Revised Version, March 6, 2005, pg.106;
[7] Attila Varga, Introduction to Applied Spatial Econometrics, course presentation, DIMETIC Pécs, July 3, 2009;
[8] ***, ArcGIS Desktop Help 9.3, including 9.3.1, http://webhelp.esri.com/arcgisdesktop/9.3/index.cfm?TopicName=How%20Spatial%20Autocorrelation:%20Moran's%20I%20(Spatial%20Statistics)%20works
[9] The GeoDa Center for Geospatial Analysis and Computation succeeds the Spatial Analysis Laboratory (SAL) which was founded by the new School of Geographical Sciences Director Luc Anselin while at the University of Illinois. http://geodacenter.asu.edu/about;

Introduction

The recent "The fifth Cohesion Report" stress the strategic perspective of the new cohesion policy, expressed by the „added territorial cohesion to the twin goals of economic and social cohesion".[10] The expected contribution of the cohesion policy is strongly linked with passing over the crises, reducing the disparities and fulfilling the ambitious objectives of the Europe 2020 Strategy.

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Following Niebuhr idea, measuring the spatial autocorrelation, **„regions marked by high unemployment as well as areas characterised by low unemployment tend to cluster in space"**[11] [Niebuhr, 2005] we try to analyse the case of intra-regional unemployment disparities at the region level (NUTS2 level - in the case of Regiunea Sud Muntenia) using the finest disaggregated level possible for data - the localities. The interest to measure the intraregional unemployment clusters is based on [Goschin, Roman, Ileanu, 2008] characteristic of the current state and dynamics of regional disparities in Romania descried as "**low amplitude of both inter-regional and intra-regional disparities"**, with the nuance that, "the **intra-regional disparities are much higher than the inter-regional disparities.**"[12] Next to agglomeration and persistence of unemployment in some specific areas, the crises period and its persistence in 2009-2010, accentuated the European tendency of increasing the „regional disparities" [13]. In Romania, view to adapt to the crise pressure since 2010 started an massive proces of budgetry sector restructuring, folowed by important exists from employment to unemployment. This significant number of persons withowt a job relatively suddent increase the pressure over the labour market insitutions and diminish the dynamics of the labout market (induced by the limited occupational mobility) and acts as an shoc (intens and or long time pressure probability) very difficult to be compensated in time by policies.

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1. Identifying the most defavourised areas from the perspective of labour force employment and unemployment from South Muntenia using the spatial analyse

Based on the Niebuhr observation we try to identify the regions/areas characterised by high unemployment level and also the regions/areas characterised by low unemployment levels. In view to use the Local Indicators of Spatial Association (LISA) to indicate the presence or absence of significant spatial clusters or outliers for each location we consider as local hot spots[14] to be identified the:

[A] hot spot of type H-H (High-High) locations as centres of the clusters named "**defavourised areas**" :

- a1 - "**defavourised quantitative areas**" shaped by the areas with high number of unemployed people (N) surrounded by areas (localities) areas with high number of unemployed people, by total, female and male - represents the **case HHN** „LISA univariate". This indicator reflects the magnitude of the phenomenon, the **inertia** of the problem and requires adequate intervention solutions;
- a2 - "**defavourised qualitative areas**" shaped by the areas with high share (P) of number of unemployed people in the stable population of the locality (total, female, male) in age of 18-62 years, surrounded by areas with high share of number of unemployed people, by (total, female, male)- represents the **case HHP** „LISA univariate. This indicator reflects the depth of the phenomenon, in terms of the degree of "**contagion**" and requires adequate intervention solutions;

  The character of defavourised areas for these locations is given by the high level of unemployment, in locations that indicates an agglomeration builded in time with high probability of its persistence. This indicator signals the underutilisation of human capital, an economic activity with problems and indicates the special attention from the policy development and implementation;

[B] hot spot of type LL (Low-Low) locations as centres of the clusters named "**competitive areas**";

- b1 - "**competitive quantitative areas**" shaped by the areas with low number of unemployed people (N) surrounded by areas (localities) areas with low number of unemployed people, by total, female and male - represents the **case LLN** „LISA univariate". These locations could reflect an important potential of development centres in the region - aspect that could be exploited in view to develop interregional relationships and of course specific policies;
- b2 - **"competitive quantitative areas**" shaped by the areas with low share (P) of number of unemployed people (total, female, male) in the stable population of the locality, surrounded by areas with low share of number of unemployed people, in age of 18-62 years by (total, female, male)- represents the **case LLP.** This indicator could indicate that the economic activity is dynamic, intense and diverse, the labour force utilization is efficient and probable is increasing the demand of labour force.

  The character of competitive areas for these locations is given by the low level of unemployment, in locations that indicates an agglomeration builded in time with high probability of socio-economic development. This indicator signals the efficient utilisation of human capital, an economic activity with good performances and indicates the need of different interventions from the policy development and implementation side;

[14] Every hot spot type corresponds to an output indicator. The output indicators calculated are characterised by different level of pseudo significance, simulated through 999 permutations with the levels: c=0,001 high significance level- high probable; a=0,01 significant level -probable; b=,05 low level of significance - low probable, see Figure 1.

2. Method

The method used is Anselin, 2005[15]/ Varga, 2009[16], analysing the Local Spatial Autocorrelations characteristics, to identify the clusters HH, LL with different significance level, for the unemployment and the share of unemployment in the stable population for the mentioned characteristics (total, feminine, masculine, age 18-62 years, at locality level), for December 2009 compared with March 2010, at locality level using Arc GIS 9.3. (Arc GIS Catalog and Arc MAP)[17]. Spatial econometrics through the GeoDa software[18] was applied under the hypothesis that localities represent the centres of the Thiessen polygons, using rook contiguity weight file. Results are presented through maps and tables indicated the localities situated in the HH and LL clusters, localities that are positive local correlated.

Among the limits regarding the applied method we mention: the univariate analysis (mask multivariate associations, variability related to scale mismatch, and other spatial heterogeneity)[19], the using of Thiessen polygons in view to pass over the limit of GEODA program regarding the LISA univariate analysis applying on islands (considering that the analysis at the localities level make the localities similar to islands), the LISA "maps is based on pseudo p-values that are dependent on the run number of permutations[20].

2. Data and indicators used in the South Muntenia Region Analysis

The variables are built with one set of reference data and one set of working data, all for the characteristics: age 18-62 years (total, feminin and masculin (calculated), see Figure 1.

The **reference data** is furnised by National Statistics Institute INS demographic data, respectively the number of the stable population registered in the locality considered as contant through analysis period.

The **working data** is furnised by the ANOFM/AJOFM (National Employment Agency) and covers 567 localities from the total of 2121 localities from Region Sud Muntenia, including the number of registered unemployed people under the administrative definiton (unemployed people with indemnisation and withowt indemnisation), for the characteristic total, female and males (calculated).

The **secondary working data** set is represented by the share of the unemployed people as a proxy for the unemployment rate. Using the administrative data there are some disadvantages and advantages. Some limits of this method induced by the indicators source: reduced comparability, national unemployment definition, the statistical quality of data, the interval of 18-62 years represent the functional age for entrance and exist in and out the labour market in Romania.

We consider very important to emphasis the advantages of this approach especially in the cohesion policy future development, like: the data are public, covers the finest regional level (localities, over LAU /2, 3174), are furnished with the best frequency among the labour market indicators - monthly frequency, are the main indicators used in the labour protection policy implementation, etc. Another very important advantage is the perspective of using the flux data (entrance and exits in unemployment at the localities level)

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[19] http://geodacenter.asu.edu/node/390#ppvalue

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next to the stoc data we used in our model, respective the entrance and exits in and out from unemployment.

Fig. 1

Sources, data and indicators used in the South Muntenia Region Analysis

Input

(Important observation: for this indicator there is not mentioned the source. Usually is measured through census -INS)

Reference data (constant, without variation for the reports of the months: December 2009 and March 2010)

			4 mar.10	*1* dec.09
		The number of stabile population in the locality in age 18-62 years (total, female and male)		
	I	The **total** number of the stable population in age 18-62 years at locality level (input data)	x	x
	II	The total number of the **females** in age 18-62 years at locality level (input data)	x	x
	III	*The total number of the **males** in age 18-62 years at locality level (input data)*	x	x

Working data - indicators provided by ANOFM (National Agency for Labour Force Employment / AJOFM - County Agency for Labour Force Employment) with monthly variation, covering 567 localities /2121 localities from Region South Muntenia

For every locality that monthly reports the unemployment number of persons - administrative unemployment - we consider the indicators with the characteristics

			Number of registered unemployed people at locality level = number of unemployed people that receive unemployment benefit + number of unemployed people without receiving unemployment benefit		
N					
	Ns	IV	**Total number of registered unemployed persons at locality level - input data**	x	x
	NsF	V	**Number of female registered as unemployed persons at locality level - input data**	x	x
	NsM	VI	*Number of male registered as unemployed persons at locality level - calculated data*	x	x
			The share of number of unemployed people (total, female, male) in the stable population of the locality (total, female, male) in age of 18-62 years;		
P	*Ps*	*VII*	*The share of number of total unemployed persons in total stable population of the locality in age of 18-62 years (calculated data);*	x	x
	PsF	*VIII*	*The share of number of female registered as unemployed persons in female stable population of the locality in age of 18-62 years (calculated*	x	x
	PsM	*IX*	*The share of number of male registered as unemployed persons in male stable population of the locality in age of 18-62 years (calculated data);*	x	x

Output

number of persons

999 permutations

level of pseudo - significance, simulated through 999 permutations:

c=0,001 high significance level- high probable

a=0,01significant level -probable;

b=0,05 low level of significance - low probable

where>

	HH(Indicator)	LL(Indicator)
Locality	0 or 1	0 or 1
	0	0
	0	1
	1	0
	1	1

N

	03.2010 (4) cluster HHN			12.2009 (1) cluster HHN		
	Ns	*NsF*	*NsM*	*Ns*	*NsF*	*NsM*
C=0,001	HHNs4c	HHNsF4c	HHNsM2c	HHNs1c	HHNsF1c	HHNsM1c
a=0,01	HHNs4a	HHNsF4a	HHNsM4a	HHNs1a	HHNsF1a	HHNsM1a
b=0,05	HHNs4b	HHNsF4b	HHNsM4b	9 HHNs1b	HHNsF1b	HHNsM1b

	cluster LLN			cluster LLN		
	Ns	*NsF*	*NsM*	*Ns*	*NsF*	*NsM*
C=0,001	LLNs4c	LLNsF4c	LLNsM4c	LLNs1c	LLNsF1c	LLNsM1c
a=0,01	LLNs4a	LLNsF4a	LLNsM4a	LLNs1a	LLNsF1a	LLNsM1a
b=0,05	LLNs4b	LLNsF4b	LLNsM4b	LLNs1b	LLNsF1b	LLNsM1b

%

P

	cluster HHP			cluster HHP		
	Ns	*NsF*	*NsM*	*Ns*	*NsF*	*NsM*
C=0,001	HHPs4c	HHPsF4c	HHPsM4c	HHPs1c	HHPsF1c	HHPsM1c
a=0,01	HHPs4a	HHPsF4a	HHPsM4a	HHPs1a	HHPsF1a	HHPsM1a
b=0,05	HHPs4b	HHPsF4b	HHPsM4b	HHPs1b	HHPsF1b	HHPsM1b

	cluster LLP			cluster LLP		
	Ns	*NsF*	*NsM*	*Ns*	*NsF*	*NsM*
C=0,001	LLPs4c	LLPsF4c	LLPsM4c	LLPs1c	LLPsF1c	LLPsM1c
a=0,01	LLPs4a	LLPsF4a	LLPsM4a	LLPs1a	LLPsF1a	LLPsM1a
b=0,05	LLPs4b	LLPsF4b	LLPsM4b	LLPs1b	LLPsF1b	LLPsM1b

9*8= 72 new indicators

The output indicators calculated are characterised by different level of pseudo significance, simulated through 999 permutations with the levels: c=0,001 high significance level- high probable; a=0,01 significant level -probable; b=,05 low level of significance - low probable. Every hot spot type corresponds to an output indicator. The result could be presented under the 36 lists/month for each cell presented in the output module in the figure

1= 3 demographic characteristics (T,M,F)* 3level of significance (c,a,b)*2 cluster type (HH,LL)*2 indicator type(N, P).

3. Results

As is visible in figure 1, there are grouped in results the modules calculated. So, for each month (December 2009 and March 2010), for each characteristic (total, female and male), for each type of indicator (Number N, share P) and for each type of cluster HH and LL we obtain 72 new indicators of the region description at locality level with 36 new indicators/month, with values assigned 0 for "FALSE" or 1 for "TRUE". The detailed results could be analysed under tree types of groups by interpretation:

3.1. Spatial volume distribution type of results perspective for the unemployment in a month at locality level

In view to illustrate the results of the method applied on volume indicators (number of unemployed persons) we present some partial results in:

a. Table 1- The most defavourized localities under the employment performance and unemployment level in the region South-Muntenia, December 2009, hierarchy resulted from the spatial distribution of the number of the unemployed persons (total, feminine and masculine) by different significance level;

Table 1

Under the employment performance and unemployment level in the region South-Muntenia, December 2009, hierarchy resulted from the spatial distribution of the number of the unemployed persons (total, feminine and masculine) by different significance level

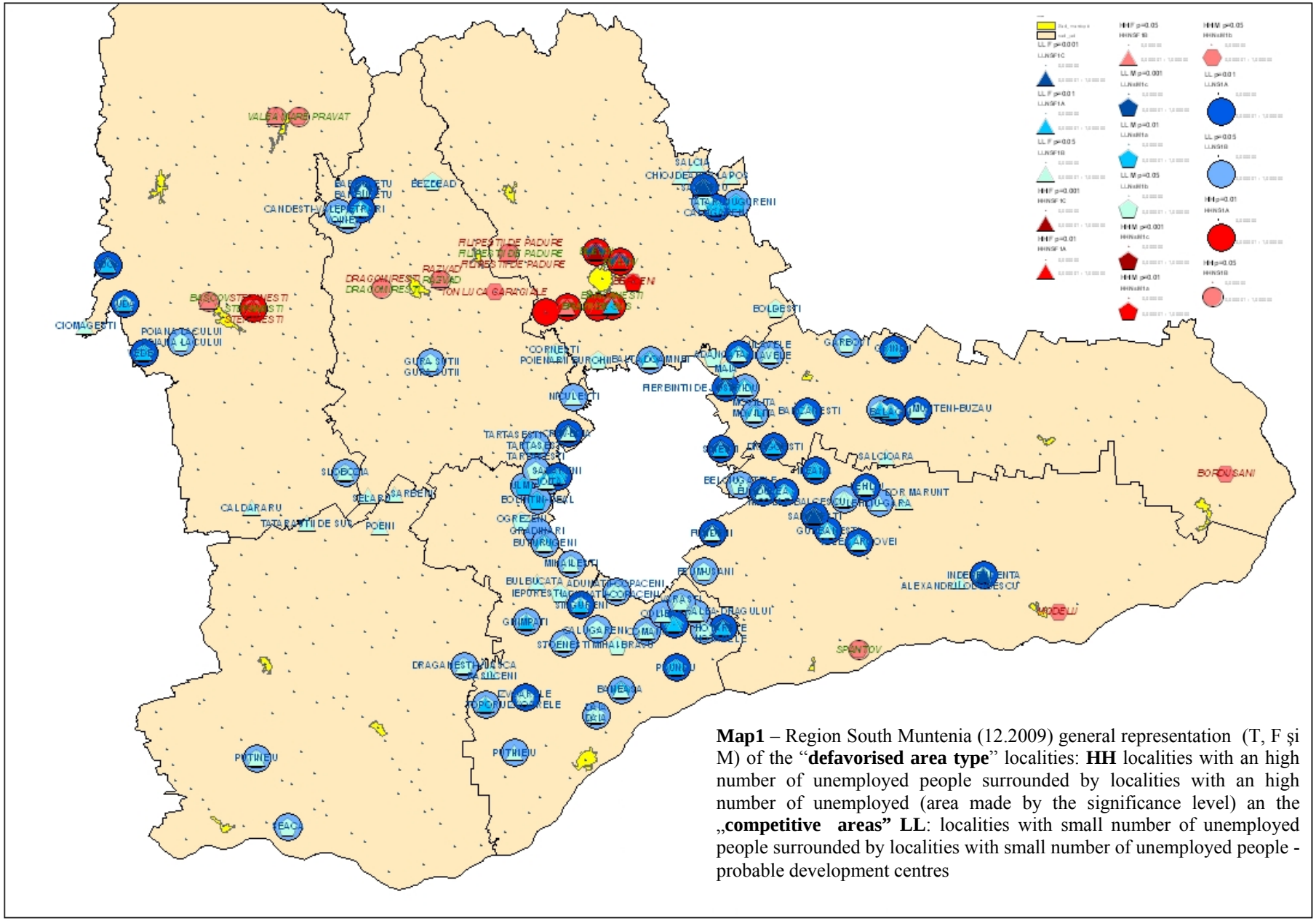
a. The most defavourized localities (HH number of unemployed people)

			a=0,01	*b=0,05*	*C=0,001*	*a=0,01*	*b=0,05*	*C=0,001*	*a=0,01*	*b=0,05*
NUME	UNITADM	JUDET	HHNS1A	HHNS1B	HHNSF1C	HHNSF1A	HHNSF1B	HHNsM1c	HHNsM1a	HHNsM1b
BLEJOI	BLEJOI	PRAHOVA	1	1	1	1	1	1	1	1
BUCOV	BUCOV	PRAHOVA	1	1	0	1	1	1	1	1
BARCANESTI	BARCANESTI	PRAHOVA	1	1	0	1	1	0	1	1
STEFANESTI	STEFANESTI	ARGES	1	1	0	1	1	0	1	1
BRAZII DE SUS	BRAZI	PRAHOVA	1	1	0	1	1	0	0	0
TARGSORU VECHI	TARGSORU VECHI	PRAHOVA	1	1	0	0	1	0	1	1
FILIPESTII DE PADURE	FILIPESTII DE PADURE	PRAHOVA	0	1	0	0	1	0	0	1
RAZVAD	RAZVAD	DAMBOVITA	0	1	0	0	1	0	0	1
BUGHEA DE SUS	BUGHEA DE SUS	ARGES	0	1	0	0	1	0	0	1
BASCOV	BASCOV	ARGES	0	1	0	0	1	0	0	1
SPANTOV	SPANTOV	CALARASI	0	1	0	0	0	0	0	1
VALEA MARE PRAVAT	VALEA MARE PRAVAT	ARGES	0	1	0	0	0	0	0	1
DRAGOMIRESTI	DRAGOMIRESTI	DAMBOVITA	0	1	0	0	0	0	0	0
BERCENI	BERCENI	PRAHOVA	0	0	0	0	0	0	1	1
BORDUSANI	BORDUSANI	IALOMITA	0	0	0	0	0	0	0	1
MODELU	MODELU	CALARASI	0	0	0	0	0	0	0	1
ION LUCA CARAGIALE	I.L.CARAGIALE	DAMBOVITA	0	0	0	0	0	0	0	1

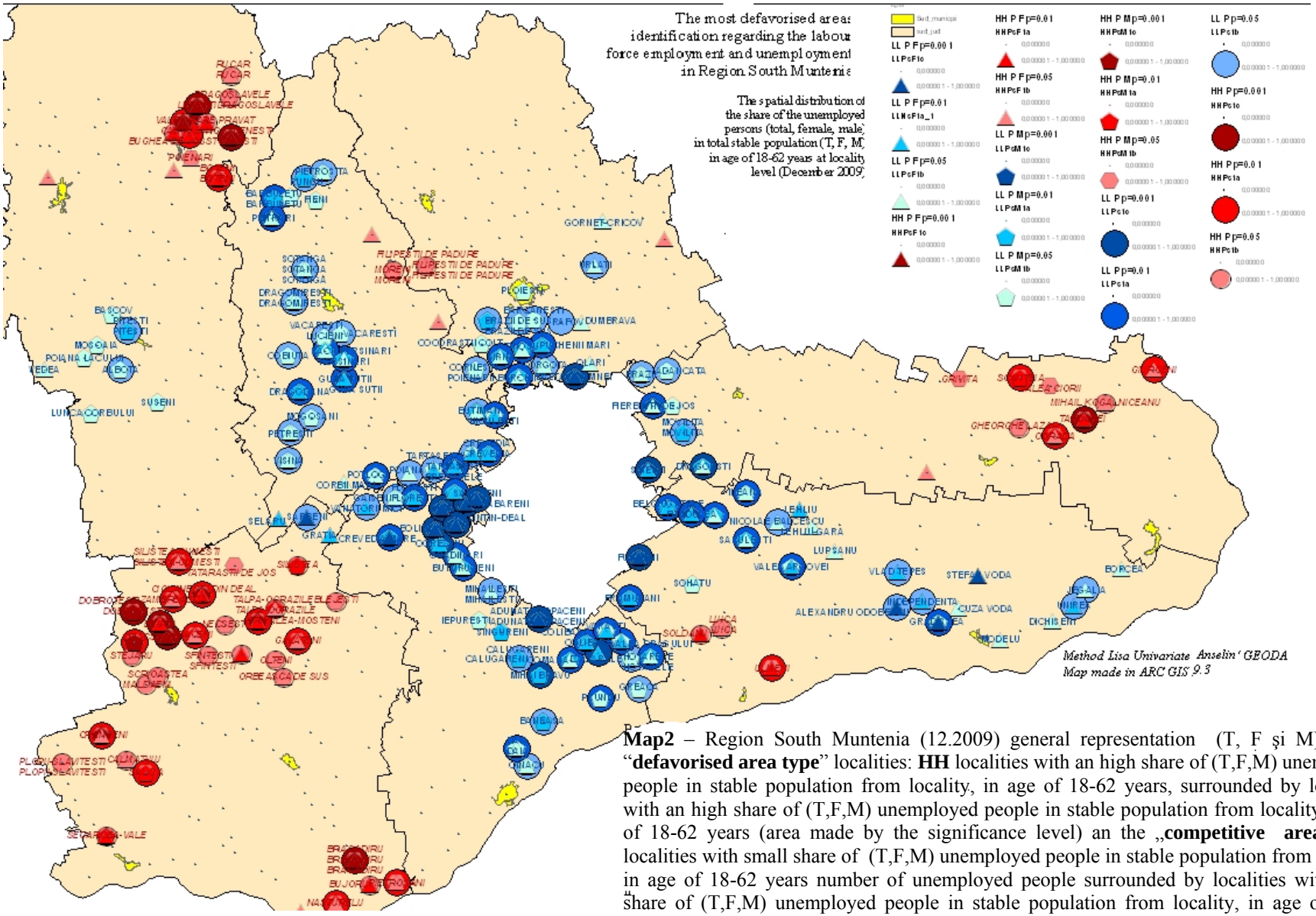
a. The most competitive localities (LL number of unemployed people)

NUME	UNITADM	JUDET	LLNS1A	LLNS1B	LLNSF1C	LLNSF1A	LLNSF1B	LLNsM1c	LLNsM1a	LLNsM1b
SANGERU	SANGERU	PRAHOVA	1	1	1	1	1	1	1	1
SARULESTI	SARULESTI	CALARASI	1	1	1	1	1	1	1	1
DRAGOESTI	DRAGOESTI	IALOMITA	1	1	0	1	1	1	1	1
INDEPENDENTA	INDEPENDENTA	CALARASI	1	1	1	1	1	0	0	1
CUCA	CUCA	ARGES	1	1	0	1	1	1	1	1
FIERBINTII DE JOS	FIERBINTI-TARG	IALOMITA	1	1	0	1	1	1	1	1
SINESTI	SINESTI	IALOMITA	1	1	0	1	1	1	1	1
HOTARELE	HOTARELE	GIURGIU	1	1	0	1	1	1	1	1
ILEANA	ILEANA	CALARASI	1	1	0	1	1	0	1	1
GRINDU	GRINDU	IALOMITA	1	1	0	1	1	0	1	1
CALUGARENI	CALUGARENI	PRAHOVA	1	1	0	1	1	0	1	1
VEDEA	VEDEA	ARGES	1	1	0	1	1	0	1	1
PRUNDU	PRUNDU	GIURGIU	1	1	0	1	1	0	1	1
GOSTINARI	GOSTINARI	GIURGIU	1	1	0	1	1	0	1	1
SABARENI	SABARENI	GIURGIU	1	1	0	1	1	0	1	1
BALACIU	BALACIU	IALOMITA	1	1	0	1	1	0	0	1
UDA	UDA	ARGES	1	1	0	1	1	0	0	1
SINGURENI	SINGURENI	GIURGIU	1	1	0	1	1	0	0	1
FUNDENI	FUNDENI	CALARASI	1	1	0	0	1	1	1	1
CREVEDIA	CREVEDIA	DAMBOVITA	1	1	0	0	1	1	1	1
BARBULETU	BARBULETU	DAMBOVITA	1	1	0	0	1	1	1	1
FUNDULEA	FUNDULEA	CALARASI	1	1	0	0	1	1	1	1

Legend: c=0,001 high significance level- high probable;a=0,01 significant level -probable; b=,05 low level of significance - low probable



Map1 – Region South Muntenia (12.2009) general representation (T, F şi M) of the "**defavorised area type**" localities: **HH** localities with an high number of unemployed people surrounded by localities with an high number of unemployed (area made by the significance level) an the „**competitive areas" LL**: localities with small number of unemployed people surrounded by localities with small number of unemployed people - probable development centres



Map2 – Region South Muntenia (12.2009) general representation (T, F şi M) of the "**defavorised area type**" localities: **HH** localities with an high share of (T,F,M) unemployed people in stable population from locality, in age of 18-62 years, surrounded by localities with an high share of (T,F,M) unemployed people in stable population from locality, in age of 18-62 years (area made by the significance level) an the „**competitive areas" LL**: localities with small share of (T,F,M) unemployed people in stable population from locality, in age of 18-62 years number of unemployed people surrounded by localities with small share of (T,F,M) unemployed people in stable population from locality, in age of 18-62 years number of unemployed people - probable development centres

b. The **Map1** – Region South Muntenia (12.2009) general representation (T, F şi M) of the "**defavorised area type**" localities: **HH** localities with an high number of unemployed people surrounded by localities with an high number of unemployed (area made by the significance level) an the „**competitive areas" LL**: localities with small number of unemployed people surrounded by localities with small number of unemployed people - probable development centres, both calculated for December 2009.

3.2. **Spatial intensity distribution type of results perspective for the unemployment in a month at locality level**

In view to illustrate the results of the method applied on intensity indicators (share of unemployed persons in the stable population of the lcoality) we present some monthly results in the **Map2** Region South Muntenia (12.2009) general representation (T, F şi M) of the "**defavorised area type**" localities: **HH** localities with an high share of (T,F,M) unemployed people in stable population from locality, in age of 18-62 years, surrounded by localities with an high share of (T,F,M) unemployed people in stable population from locality, in age of 18-62 years (area made by the significance level) an the „**competitive areas" LL**: localities with small share of (T,F,M) unemployed people in stable population from locality, in age of 18-62 years number of unemployed people surrounded by localities with small share of (T,F,M) unemployed people in stable population from locality, in age of 18-62 years number of unemployed people - probable development centres.

3.3. Spatial contagion type of results: the unemployment spatial distribution progress made of it's the volume (or intensity), between the moments expressed as stoc data for two months: studied month and the reference month, at locality level

If the method is applied identically for every month then comparing the maps for the spatial distribution of the volume or of the intensity indicators then we can point some spreading directions / progress of the contagion of regression for the studied phenomenon. Our results covers the March 2010 and December 2009 moments, based on the stoc data (measured at the end of the month at locality level). Because of the extended volume of results (detailed lists for the 36 output indicators, for each locality with values for unemployment) we present only one synthetic example in table 2: "The cluster "defavourised areas - type HH unemployment" identification by the spatial distribution of the number of the unemployed persons - comparing the centre identified in March 2010 with the centre identified in December 2009 by different significance level".

The monitoring of the locality dynamic under the characteristic of being a hot spot - centre of clusters of type HH or LL, with the its significance level, could offer an image of the transition speed from one state to another. We note as "**old"** the localities that get out from the initial reference state (defavorised area) and described them as: localities that belong to specific cluster /active in December 2009 and inactive in March 2010. In mirror w consider, that "**new"** reflects the transitions of the localities from the state "neutral" or inactive in December 2009 and active/becomes a centre of cluster in March 2010, relatively to belonging to an cluster type HH or LL, under the analyse criteria. The last used label is "**ct**" that reflects the constancy of the status, noted as "active in December 2009 and active in March 2010" and indicating that the locality is still and cluster centre.

Table 2

The cluster ”defavourised areas - type HH unemployment” identification by the spatial distribution of the number of the unemployed persons - comparing the centre identified in March 2010 with the centre identified in December 2009 by different significance level

			March 2010		December 2009		
		Significance	***a=0,01***	***b=0,05***	***a=0,01***	***b=0,05***	
Lacality	administrative unit	JUDET/county	**HHNs4a**	HHNs4b	**HHNS1A**	HHNS1B	
TARGSORU VECHI	**TARGSORU VECHI**	**PRAHOVA**	**1**	**1**	**1**	**1**	ct
BARCANESTI	**BARCANESTI**	**PRAHOVA**	**1**	**1**	**1**	**1**	ct
BUCOV	**BUCOV**	**PRAHOVA**	**1**	**1**	**1**	**1**	ct
BLEJOI	**BLEJOI**	**PRAHOVA**	**1**	**1**	**1**	**1**	ct
BRAZII DE SUS	**BRAZI**	**PRAHOVA**	**1**	**1**	**1**	**1**	ct
STEFANESTI	STEFANESTI	ARGES	**0**	1	**1**	1	old
RAZVAD	RAZVAD	DAMBOVITA	**0**	1	**0**	1	ct
BUGHEA DE SUS	BUGHEA DE SUS	ARGES	**0**	1	**0**	1	ct
SPANTOV	SPANTOV	CALARASI	**0**	1	**0**	1	ct
BASCOV	BASCOV	ARGES	**0**	1	**0**	1	ct
VALEA MARE PRAVAT	VALEA MARE PRAVAT	ARGES	**0**	1	**0**	1	ct
ULMI	ULMI	DAMBOVITA	**0**	1	**0**	0	new
DRAGOMIRESTI	DRAGOMIRESTI	DAMBOVITA	**0**	0	**0**	1	old
FILIPESTII DE PADURE	FILIPESTII DE PADURE	PRAHOVA	**0**	0	**0**	1	old
MANESTI	**MANESTI**	**PRAHOVA**	**0**	**0**	**1**	**0**	**old**

Legend: a=0,01 significant level -probable;
b=,05 low level of significance - low probable
Centre grouping by the typology of the significance level considering the general direction description based on the labels:
***old**=”active in December 2009 and inactive in March 2010”,*
***ct**=”active in December 2009 and active in March 2010”,*
***new** =”inactive in December 2009 and active in March 2010”.*

4. Final remarks

This spatial analysis could be a measure of the new cohesion policy, focused on territorial, economic and social cohesion in view to implement the strategic perspective. In view to improve the efficiency and coordination the Strategy implementation process at regional level, there some advantages of this method, considering it is:

- an relative easy to apply method with results visual friendly to a large spectrum of users with the result could be presented under the 36 lists/month for each cell presented in the output module in the figure 1= 3 demographic characteristics (T,M,F)* 3level of significance (c,a,b)*2 cluster type (HH,LL)*2indicator type(N, P).
- a useful instrument that exploits and valuate indicators that already exists and opens new possibilities to be improved - as an secondary analysis low cost result;
- a method possible to be adapted to monitoring the of different policies effect on the labour market at locality level (monitoring its the transition speed, the stage relatively at cluster type), also on short term, with an improved accuracy. At this stage is more an alarm sign that point out the hot spot that need more/specific attention.

All the maps are doubled with indexed lists that allow identifying the localities under different characteristics quantitative/ volume, qualitative/intensity by demographic characteristics (total, female, male) under spatial distribution perspective**.**

All these information superposed with other data spatially distributed could offer the opportunity to develop multivariate analysis in view to better shape the interactions, effects and problems at the local level, to measure the **intraregional unemployment clusters** also in their dynamic interaction.

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