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# THE IMPORTANCE OF THE TERRITORIAL DIVERSITY. EMPLOYMENT EFFECTS OF THE FIRST AND SECOND PILLAR OF THE CAP IN RURAL AREAS

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Rural Jobs and the CAP

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# OBJECTIVES OF THE PAPER

- Study of the CAP impact on agricultural labour in Italian agriculture in 2007-14 period
- Explore the diversity of impacts in different territorial settings
- Consider also other determinants of labour within an econometric model
- *Research funded by the National Rural Network*
- *Aimed ultimately at defining the Italian position within the debate on CAP post-2014*

# BACKGROUND

- Continuous trend in rural exodus
- New forms of rural jobs and new generations of rural entrepreneurs
- Emphasis on sustainability both on environmental and social side (conditions for hired labour)
- Review of the most recent studies (EP, 2016)
- Different geographical coverage and CAP components

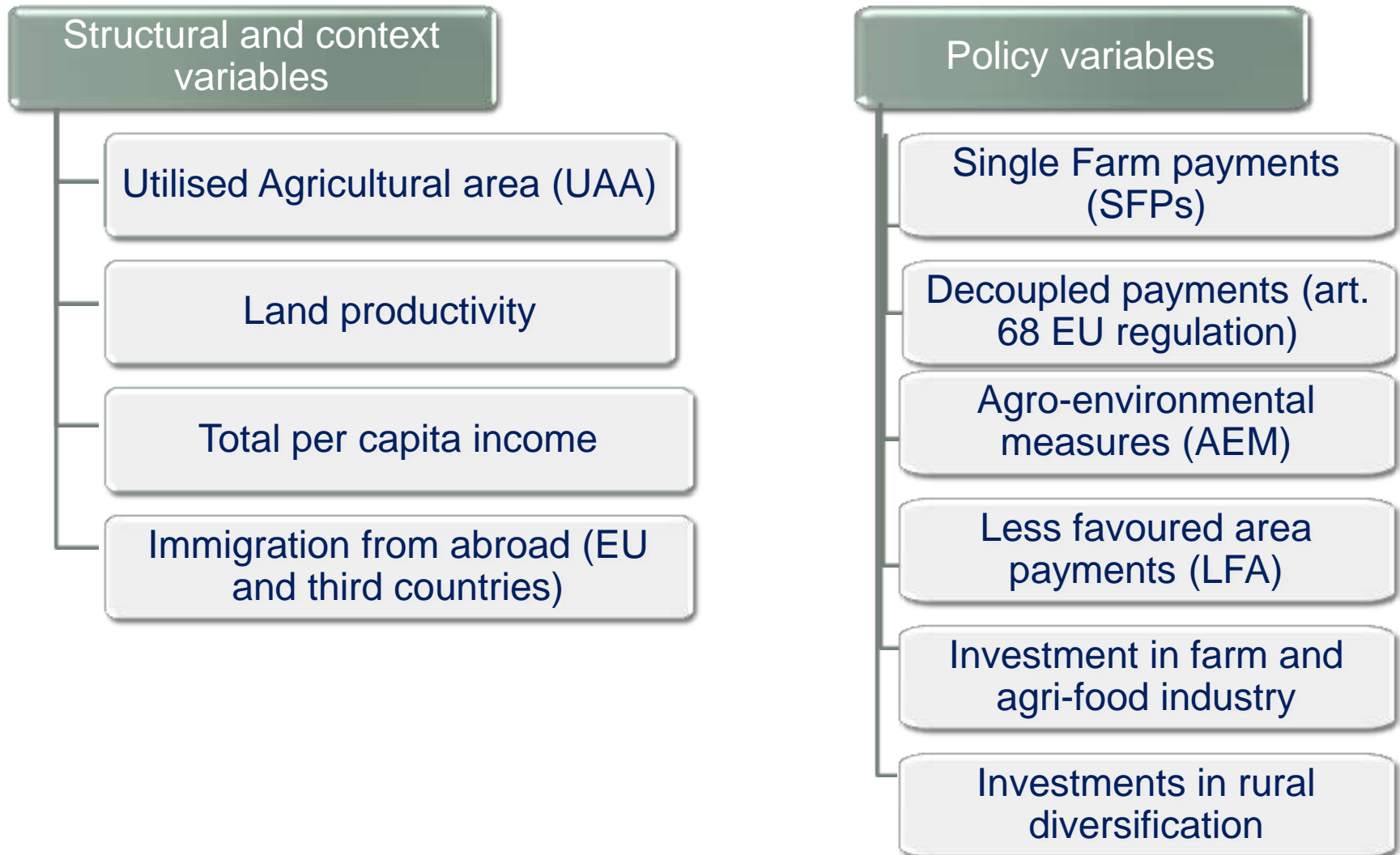
# BACKGROUND 2

- Most studies confined to specific countries or regional case studies
- Need to take into account cross-country and cross-region heterogeneities
- Equally important to give more attention to territorial diversities between rural areas
- Need to consider the hypothesis that impacts of CAP on labour can depend strongly on the meso-level (between farm and national/regional levels)
- This implies to go deeper than NUTS2 or NUTS3 tiers.

# Methodology

- Analysis of CAP measures (I and II pillar)
- Econometric model explaining labour use
- Total labour units, family and hired labour
- OLS method of regression analysis
- Log-linear transformation
- All variables at LAU2 level (municipality). No. 8.091 observations (agricultural census data aggregated at LAU2 level)
- Availability of data at LAU2 level only for the period 2007-2013
- Estimates at national and territorial level
- Typology of territories based on the access to general interest services

# Explicative variables



# A typology of territorial diversity

- Based on the travel distance from urban centres providing services of general interest (healthcare structures, railway stations of medium size, primary and secondary schools)
- Four types of areas:
  - a) Urban poles;
  - b) Diffuse economic development (peri-urban and interstitial areas)
  - c) Intermediate areas
  - d) Peripheral and ultra-peripheral areas (remote/inner areas)



# Population and economy

| Types of area                   | % Population 2011 | % Territorial surface | Population density | % Total labour force occupied | % Industrial labour force occupied | Per capita income 2009 (000 €) |
|---------------------------------|-------------------|-----------------------|--------------------|-------------------------------|------------------------------------|--------------------------------|
| Urban Poles                     | 40,3              | 12,4                  | 638,3              | 48,9                          | 30,9                               | 19,4                           |
| Diffuse economy                 | 37,2              | 27,8                  | 263,6              | 35,3                          | 51,6                               | 16,9                           |
| Intermediate                    | 14,9              | 29,2                  | 100,2              | 10,9                          | 13,1                               | 14,9                           |
| Peripheral and ultra-peripheral | 7,6               | 30,6                  | 48,7               | 4,9                           | 4,4                                | 13,8                           |
| Total                           | 100,0             | 100,0                 | 196,8              | 100,0                         | 100,0                              | 17,4                           |

# Population and economy 2

| Types of area                   | % population change 1981-2011 | % population change 2001-11 | % immigrants change 2001-11 | Ratio immigrants/population 2001 | Ratio immigrants/population 2011 |
|---------------------------------|-------------------------------|-----------------------------|-----------------------------|----------------------------------|----------------------------------|
| Urban Poles                     | -6,8                          | 1,5                         | 185,7                       | 2,8                              | 7,8                              |
| Diffuse economy                 | 22,2                          | 8,8                         | 223,5                       | 2,2                              | 6,5                              |
| Intermediate                    | 9,1                           | 4,3                         | 203,0                       | 2,1                              | 6,2                              |
| Peripheral and ultra-peripheral | -6,1                          | -1,5                        | 213,3                       | 1,2                              | 3,8                              |
| Total                           | 4,8                           | 4,3                         | 201,8                       | 2,3                              | 6,8                              |

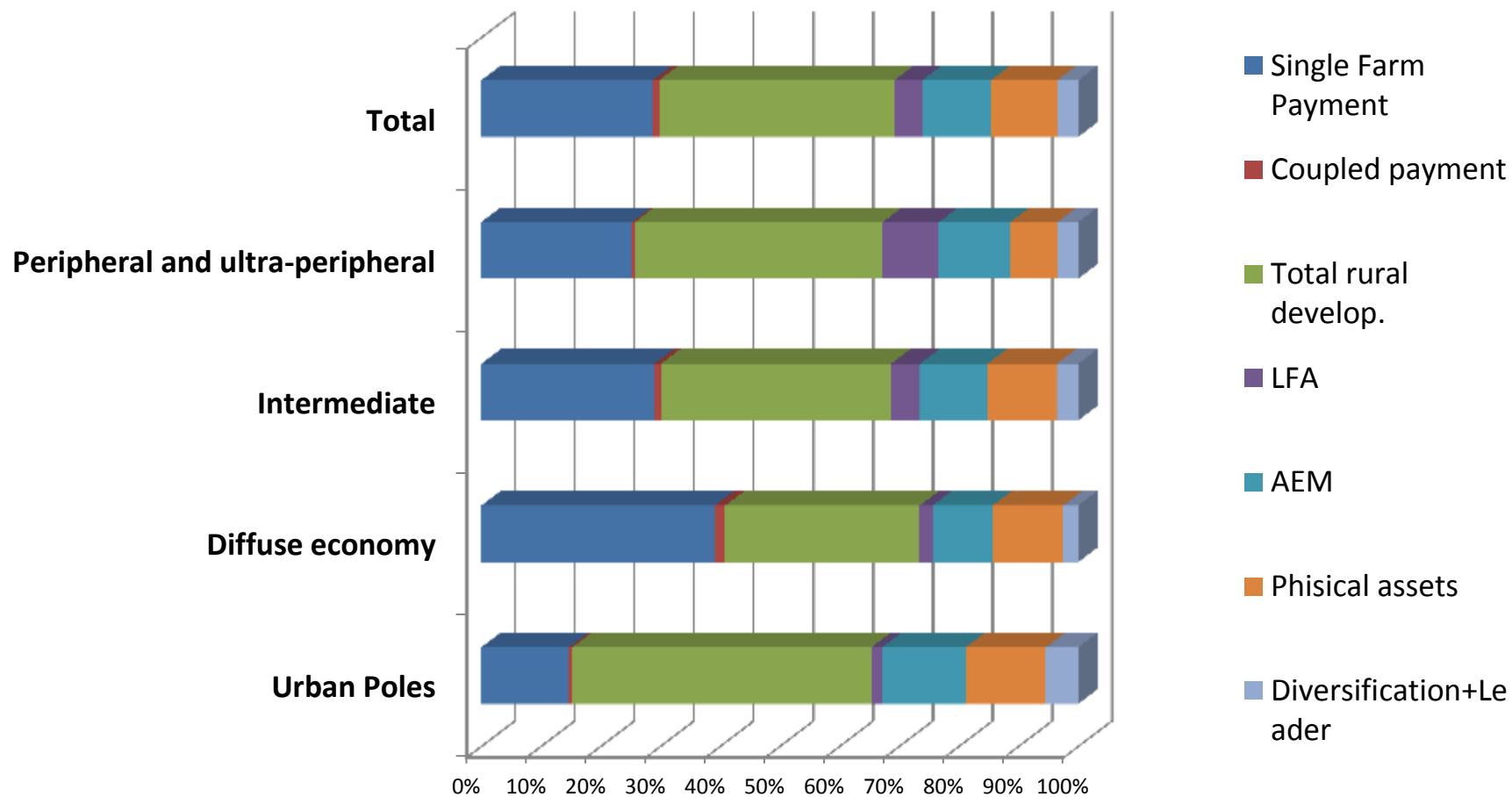
# Agriculture, CAP

| Types of area                   | Gross Agricultural production (million €) | Gross Agric. Prod per labour unit | Gross Agric. Prod per UAA | Gross Agric. Prod per farm unit | PAC subsidies/ Gross Agricultural Production |
|---------------------------------|-------------------------------------------|-----------------------------------|---------------------------|---------------------------------|----------------------------------------------|
| Urban Poles                     | 7.935,9                                   | 55.655                            | 4.353                     | 34.256                          | 18,9                                         |
| Diffuse economy                 | 21.591,0                                  | 62.928                            | 5.400                     | 39.194                          | 14,0                                         |
| Intermediate                    | 13.291,3                                  | 50.905                            | 3.757                     | 27.305                          | 20,1                                         |
| Peripheral and ultra-peripheral | 6.641,1                                   | 40.198                            | 1.899                     | 18.890                          | 33,8                                         |
| Total                           | 49.459,4                                  | 54.231                            | 3.847                     | 30.514                          | 19,1                                         |

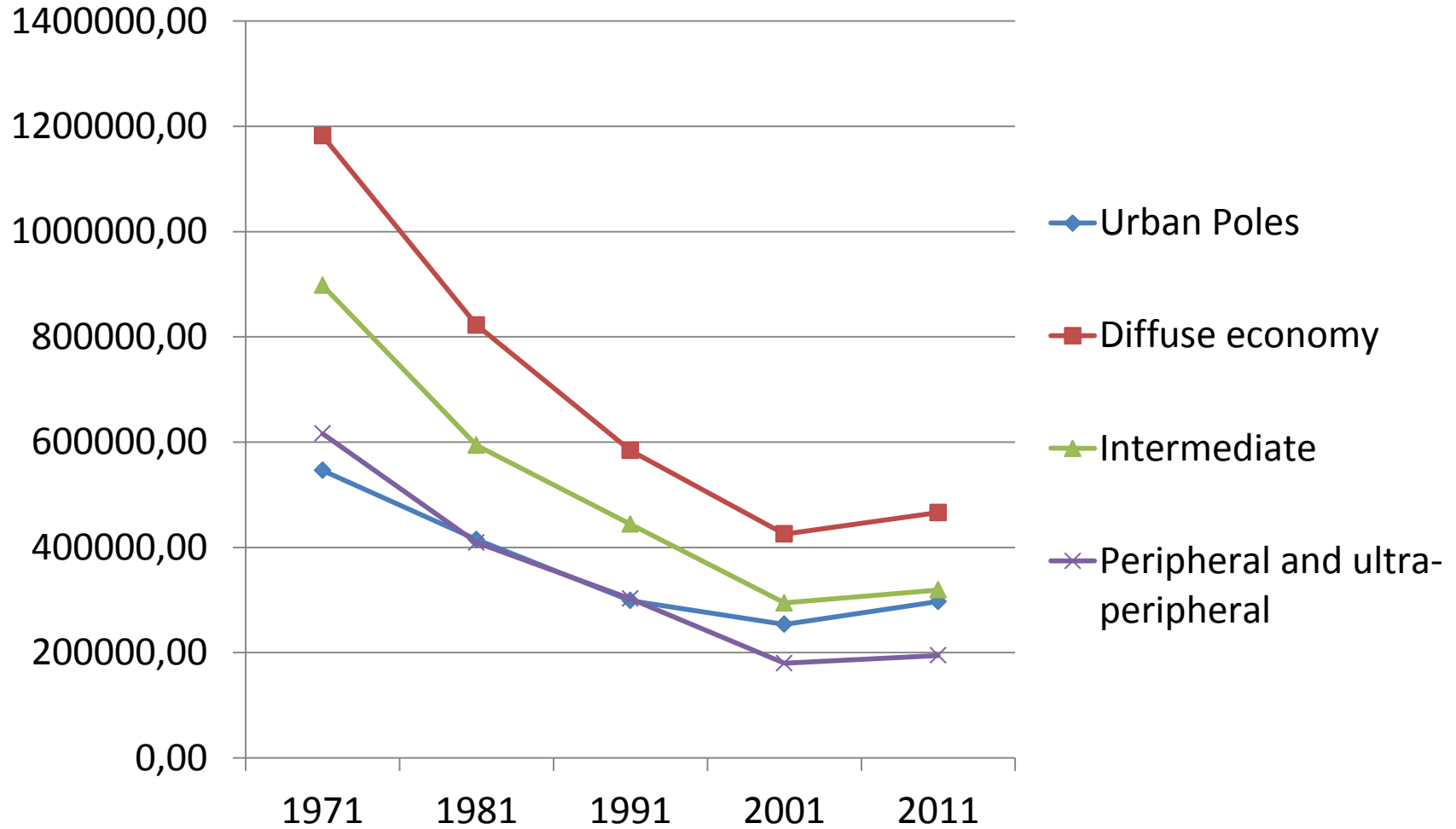
# CAP profile by types of area

| Types of area                   | Single Farm Payment | Coupled payment | Total rural develop. | LFA  | AEM  | Physical assets | Diversification+Leader | Total |
|---------------------------------|---------------------|-----------------|----------------------|------|------|-----------------|------------------------|-------|
| Urban Poles                     | 22,5                | 0,8             | 76,6                 | 2,8  | 21,4 | 20,6            | 8,3                    | 100,0 |
| Diffuse economy                 | 53,3                | 2,4             | 44,4                 | 2,9  | 13,7 | 16,1            | 3,4                    | 100,0 |
| Intermediate                    | 42,3                | 1,6             | 56,2                 | 7,1  | 16,4 | 17,0            | 5,2                    | 100,0 |
| Peripheral and ultra-peripheral | 37,5                | 0,7             | 61,8                 | 14,0 | 17,7 | 11,7            | 5,2                    | 100,0 |
| Total                           | 41,5                | 1,5             | 57,0                 | 6,7  | 16,7 | 16,0            | 5,1                    | 100,0 |

# CAP profile by types of area



# Trends in agricultural labour force



# Trends in agricultural labour force

| Types of area                   | Change. % 2001-11 | Change% 1981-2011 |
|---------------------------------|-------------------|-------------------|
| Urban Poles                     | 17,0              | - 28,4            |
| Diffuse economy                 | 9,6               | - 43,3            |
| Intermediate                    | 8,3               | - 46,3            |
| Peripheral and ultra-peripheral | 8,2               | - 52,4            |
| Total                           | 10,7              | - 43,0            |

# Main findings from OLS regressions

Dependent variable: log of Agricultural Work Units (total) LnAWUt

| Independent variables                                           | Standardized Coefficients | Standard error | Collinearity statistics (VIF) |
|-----------------------------------------------------------------|---------------------------|----------------|-------------------------------|
| Constant                                                        | 5,6989***                 | 0,365          |                               |
| Utilized Agricultural Area (2010)                               | 0,663***                  | 0,005          | 1,270                         |
| Farm Land Productivity per Hectare (2010)                       | 0,291***                  | 0,009          | 1,451                         |
| Per-capita total available income (2009)                        | -0,164***                 | 0,035          | 1,338                         |
| No. of total immigrants (annual average 2001-10)                | 0,238***                  | 0,005          | 1,601                         |
| Coupled Payments (art. 68) per hectare                          | -0,025***                 | 0,005          | 1,468                         |
| Single Farm Payments (2007-13) per hectare                      | -0,070***                 | 0,005          | 1,449                         |
| Agro-environmental Payments (2007-13) per hectare               | 0,035***                  | 0,004          | 1,227                         |
| Less-favoured areas Payments (2007-13) per hectare              | 0,040***                  | 0,003          | 1,426                         |
| Total Investment in agriculture (2007-13) per hectare           | 0,081***                  | 0,003          | 1,263                         |
| Total investment in rural diversification (2007-13) per hectare | 0,036***                  | 0,003          | 1,141                         |
| Observations                                                    |                           | 8091           |                               |
| R-squared adjusted                                              |                           | 0,794          |                               |
| F-test                                                          |                           | 3120***        |                               |



## Some synthetic views

- Good statistical results
- Role of structural and context variables
- Positive role of immigration and negative role of income per capita
- Conflicting nature of I and II pillar measures
- Role of SFP consistent with current literature, while coupled payments is highly specific
- Propulsive role of investment un agricultural structures (targeting and pushing competitiveness) and also in rural diversification

# Differences between Family/Hired labour

| Dependent variable:                                             | In (Family Annual Working Units) |                | In (Hired Annual Working Units) |                |
|-----------------------------------------------------------------|----------------------------------|----------------|---------------------------------|----------------|
|                                                                 | Standardized Coefficients        | Standard error | Standardized Coefficients       | Standard error |
| Constant                                                        | 5,499***                         | 0,363          | 3,239***                        | ,795           |
| Utilized Agricultural Area (2010)                               | ,669***                          | ,005           | ,396***                         | ,011           |
| Farm Land Productivity per Hectare (2010)                       | ,279***                          | ,009           | ,280***                         | ,019           |
| Per-capita total available income (2009)                        | -,162***                         | ,035           | -,129***                        | ,077           |
| No. of total immigrants (annual average 2001-10)                | ,236***                          | ,005           | ,252***                         | ,011           |
| Coupled Payments (art. 68) per hectare                          | -,013**                          | ,005           | -,073***                        | ,010           |
| Direct Payments (2007-13) per hectare                           | -,079***                         | ,005           | -,047***                        | ,010           |
| Agro-environmental Payments (2007-13) per hectare               | ,025***                          | ,004           | ,103***                         | ,009           |
| Less-favoured areas Payments (2007-13) per hectare              | ,060***                          | ,003           | -,111***                        | ,008           |
| Total Investment in agriculture (2007-13) per hectare           | ,086***                          | ,003           | ,044***                         | ,008           |
| Total investment in rural diversification (2007-13) per hectare | ,031***                          | ,003           | ,078***                         | ,007           |
| No. observations                                                | 8091                             |                | 8091                            |                |
| R-squared adjusted                                              | 0,785                            |                | 0,517                           |                |
| F-test                                                          | 2954,08***                       |                | 867,67***                       |                |

# Differences between types of area

| Dependent variable: log AWUt14 (Total Annual Working Units in 2014) | Typology of areas         |                           |                           |                           |
|---------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|                                                                     | Urban Poles               | Diffuse economy           | Intermediate areas        | Inner areas               |
|                                                                     | Standardized Coefficients | Standardized Coefficients | Standardized Coefficients | Standardized Coefficients |
| Independent variables                                               |                           |                           |                           |                           |
| Constant                                                            | 2,866 *                   | 5,235 ***                 | 4,362 ***                 | 7,275 ***                 |
| Utilized Agricultural Area (2010)                                   | 0,882 ***                 | ,659 ***                  | ,659 ***                  | ,641 ***                  |
| Farm Land Productivity per Hectare (2010)                           | 0,353 ***                 | ,297 ***                  | ,288 ***                  | ,206 ***                  |
| Per-capita total available income (2009)                            | -0,151 ***                | -,147 ***                 | -,139 ***                 | -,174 ***                 |
| No. of total immigrants (annual average 2001-10)                    | 0,064 **                  | ,216 ***                  | ,188 ***                  | ,231 ***                  |
| Coupled Payments (art. 68) per hectare                              | 0,007                     | -,011                     | -,033 ***                 | -,043 ***                 |
| Single farm Payments (2007-13) per hectare                          | -0,083 ***                | -,113 ***                 | -,068 ***                 | ,018                      |
| Agro-environmental Payments (2007-13) per hectare                   | 0,048 *                   | ,038 ***                  | ,034 ***                  | ,053 ***                  |
| Less-favoured areas Payments (2007-13) per hectare                  | 0,066 ***                 | ,026 ***                  | ,048 ***                  | ,028 **                   |
| Total Investment in agriculture (2007-13) per hectare               | 0,074 ***                 | ,089 ***                  | ,078 ***                  | ,069 ***                  |
| Total investment in rural diversification (2007-13) per hectare     | 0,021                     | ,045 ***                  | ,037 ***                  | ,024 **                   |
| No. observations                                                    | 338                       | 3567                      | 2359                      | 1824                      |
| R-squared adjusted                                                  | 0,861                     | 0,789                     | 0,792                     | 0,765                     |
| F-test                                                              | 210,99 ***                | 1336,14 ***               | 897,20 ***                | 593,54 ***                |

# Territorial impacts of CAP

- In each area statistical validity of the model is confirmed
- Pillar 1 measures confirm their negative impact or no impact at all in some areas
- The same for Pillar 2, but with some relevant detail
- Support to investment (physical assets and diversification) have higher impact in areas with diffuse economy
- LFA measures do not generate a relevant impact in peripheral areas, while AEM perform much better

# Some implications for policy reform

- Is still there a room for developing a CAP with specific aims to promote smart jobs and growth?
- Need of a deep revision of CAP policy structure and tools
- I pillar: to identify clear and simple ways to support income when and where it is really necessary
- II pillar: no need of new measures, definitely a more holistic vision of the structural problems of agri-food chains and diversity of rural areas
- Keep most of old measures (particularly those devoted to physical and human capital), but new approaches and a different governance
- Don't mix different policy tools in a 1 pillar reform, please!
- CAP alone cannot face the employment challenges, add national policies addressed to provide services of general interests in rural areas are crucial (a new conditionality)