IRWIR PAN Polish Academy of Sciences
Institute of Rural and Agricultural Development

The role of the EU's Rural Development Programs in creating rural jobs in Poland

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Main goals

- **Estimating the impact of the Polish Rural Development Program 2007-2013 on rural jobs in Poland**

- **Estimating the hypothetical alternative RDP scenarios looking for the highest impact on employment**

- **Comparing the impact of RDPs vs Direct Payments on rural jobs**

Contents

- **Introduction:**
  - Facts on rural jobs in Poland
  - construction of RDPs in Poland
  - regional differences in absorption of RDP funds vs Direct Payments
- **Method:**
  - Regional Computable General Equilibrium Model (POLTERM)
  - Simulation design – factual vs hypothetical scenarios
- **Results of model simulations on rural employment:**
  - Impact of RDP as a whole
  - Impact of individual RDP measures
  - Comparison of impact from RDP vs Direct payment
- **Conclusions**

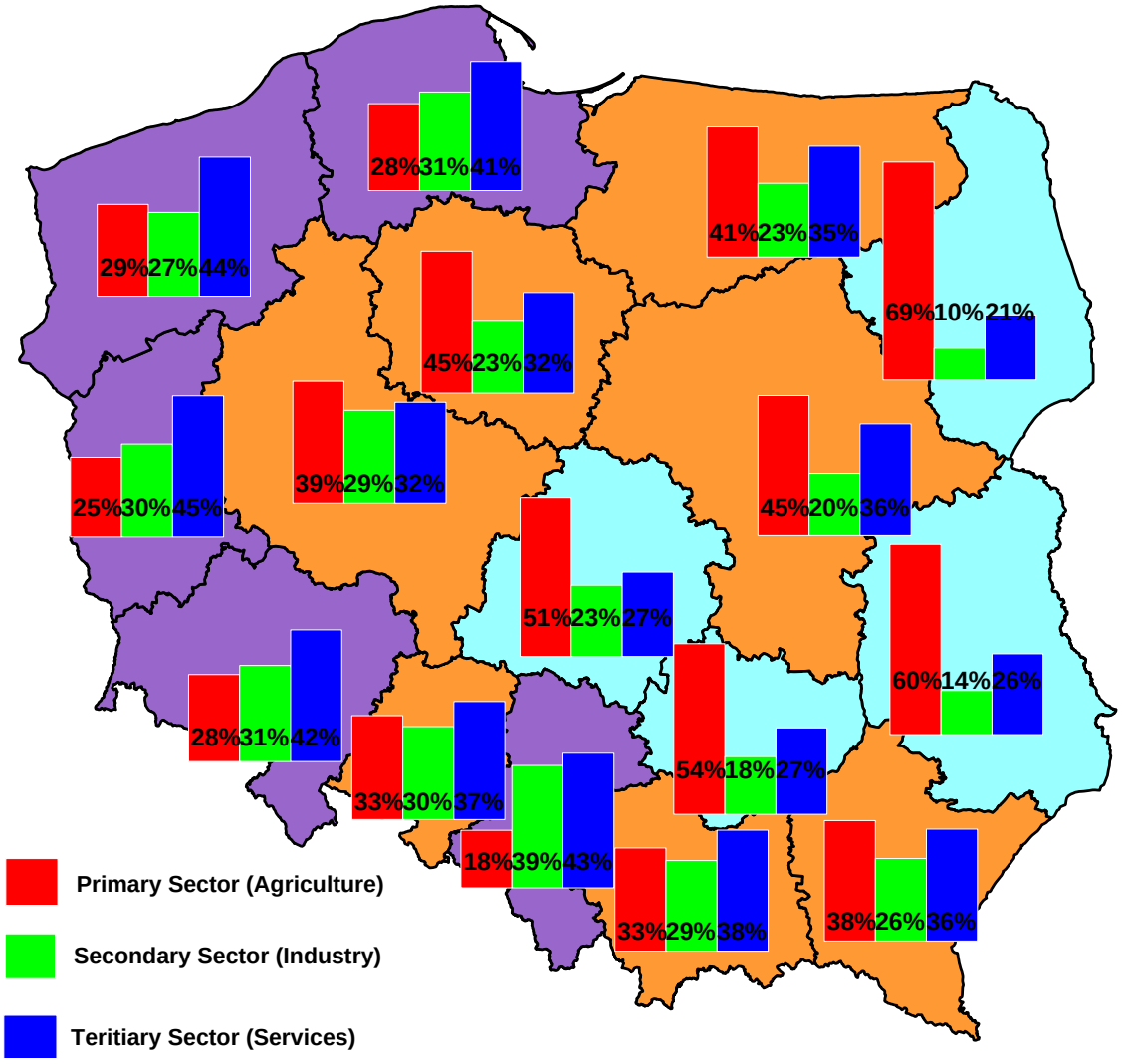
Introduction:

- Facts on rural jobs in Poland
- construction of RDPs in Poland
- regional differences in absorption of RDP funds and Direct Payments

Facts on rural jobs in Poland

- Poland has the **second highest proportion of population working in agricultural sector** among EU countries (12.4% in 2011) after Romania (25.6% in 2011). In 2014 it was 11.5% (FDPA 2016)
- In rural areas the **percentage of persons employed in agriculture fell** from 30.4% in 2011 to 28.3% in 2013 (Labor Force Survey)
- The **general employment rate** (at the age of 15 and more) **in rural areas increased** from 50.4% to 50.9%, of which for working age population – from 64.8% to 66.0%.
- According to Labor Force Survey the **number of unemployed in rural areas increased** during the period 2011-2013 by 9.1%.
- That **increase concerned the landless population** (their unemployment increase by 14%) while **among the farming population unemployment actually fell** by 4% (FDPA, 2016)

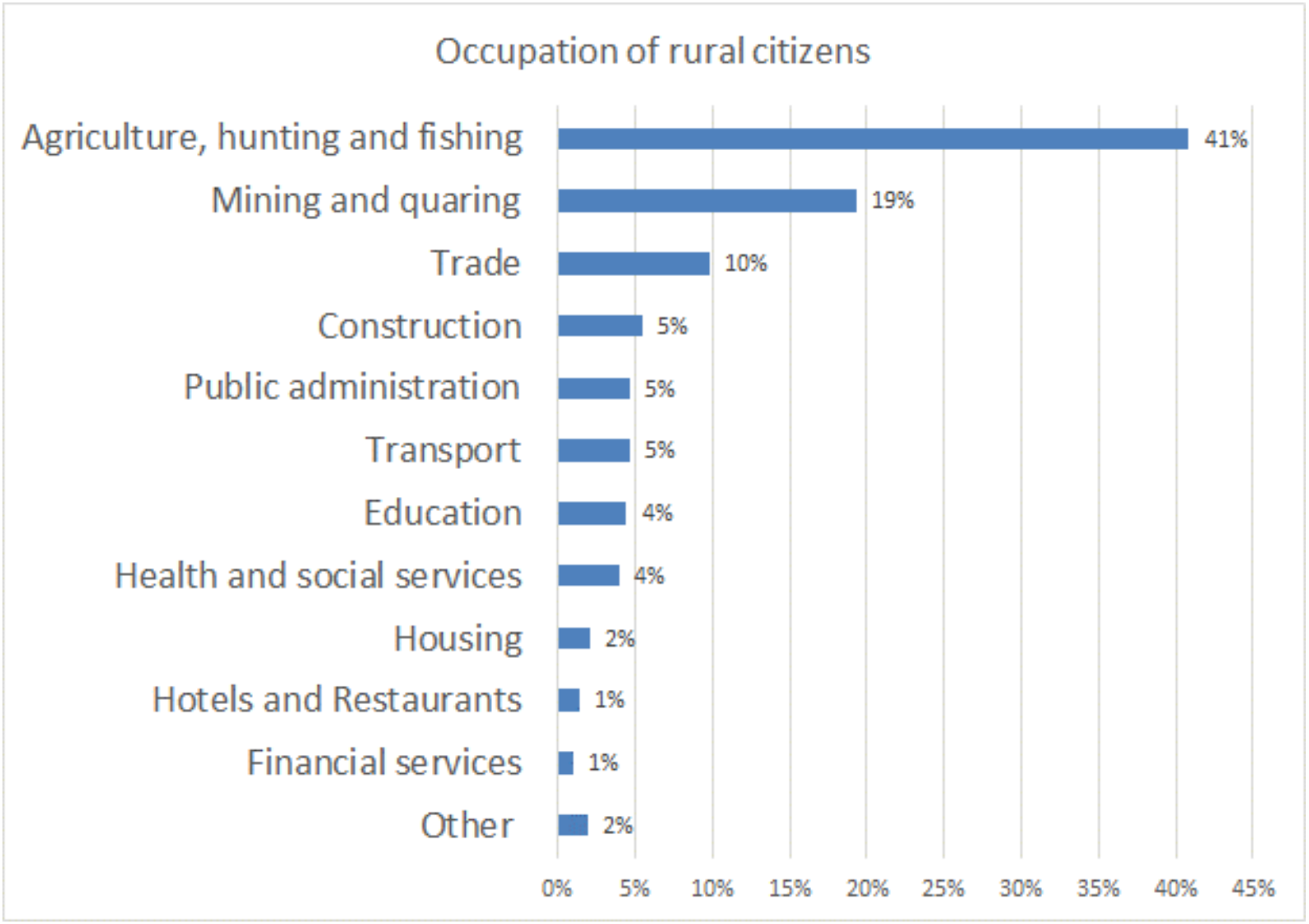
REGIONS: sectoral composition of employment in Polish rural areas



Rural classification vs Agricultural occupation

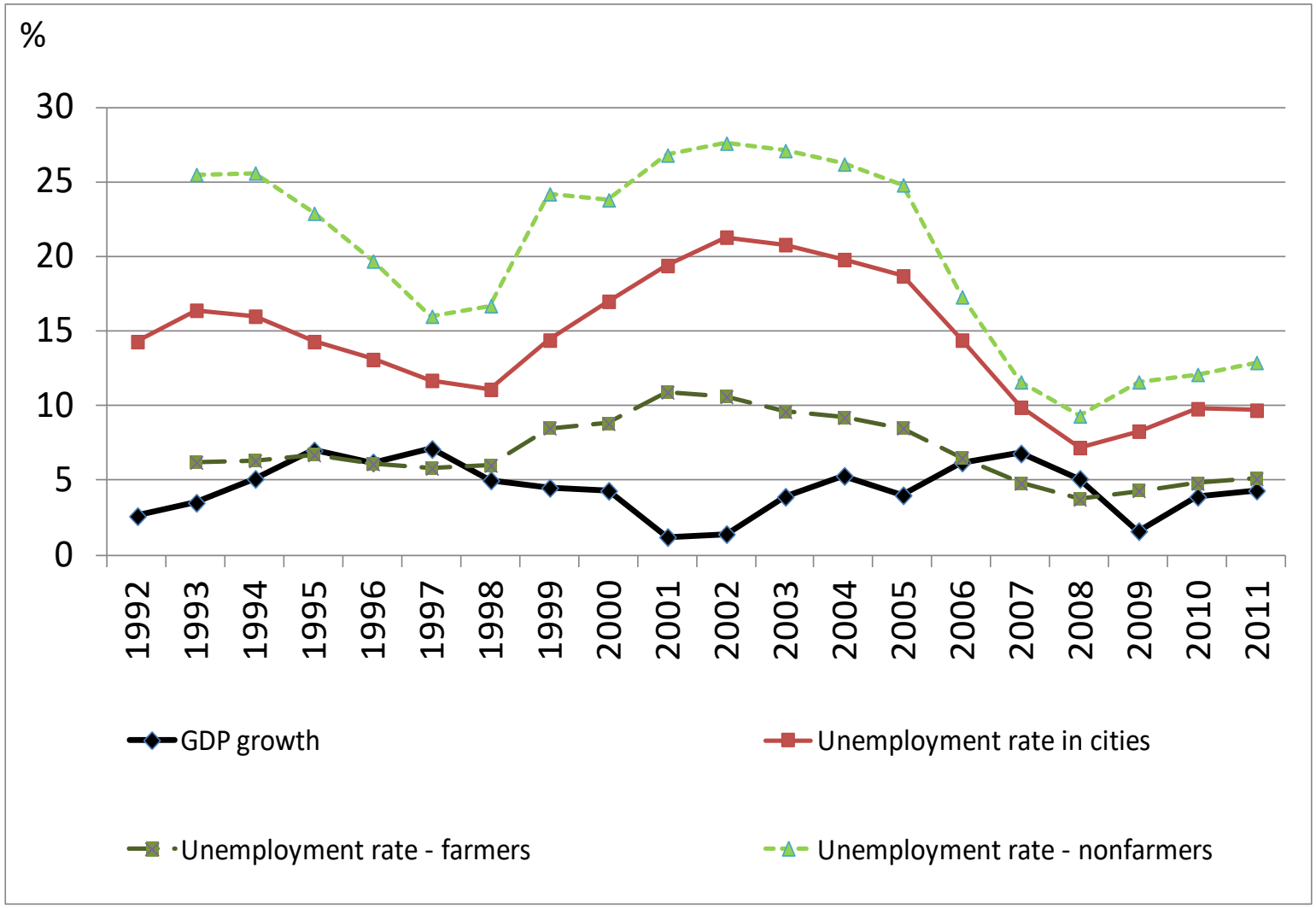
- 4 (blue) predominantly agricultural regions (above 50% of people employed in agriculture)
- 5 (purple) regions where services dominate
- 7 (orange) regions where agriculture is less than 50%, mixed regions.

Occupation of rural citizens



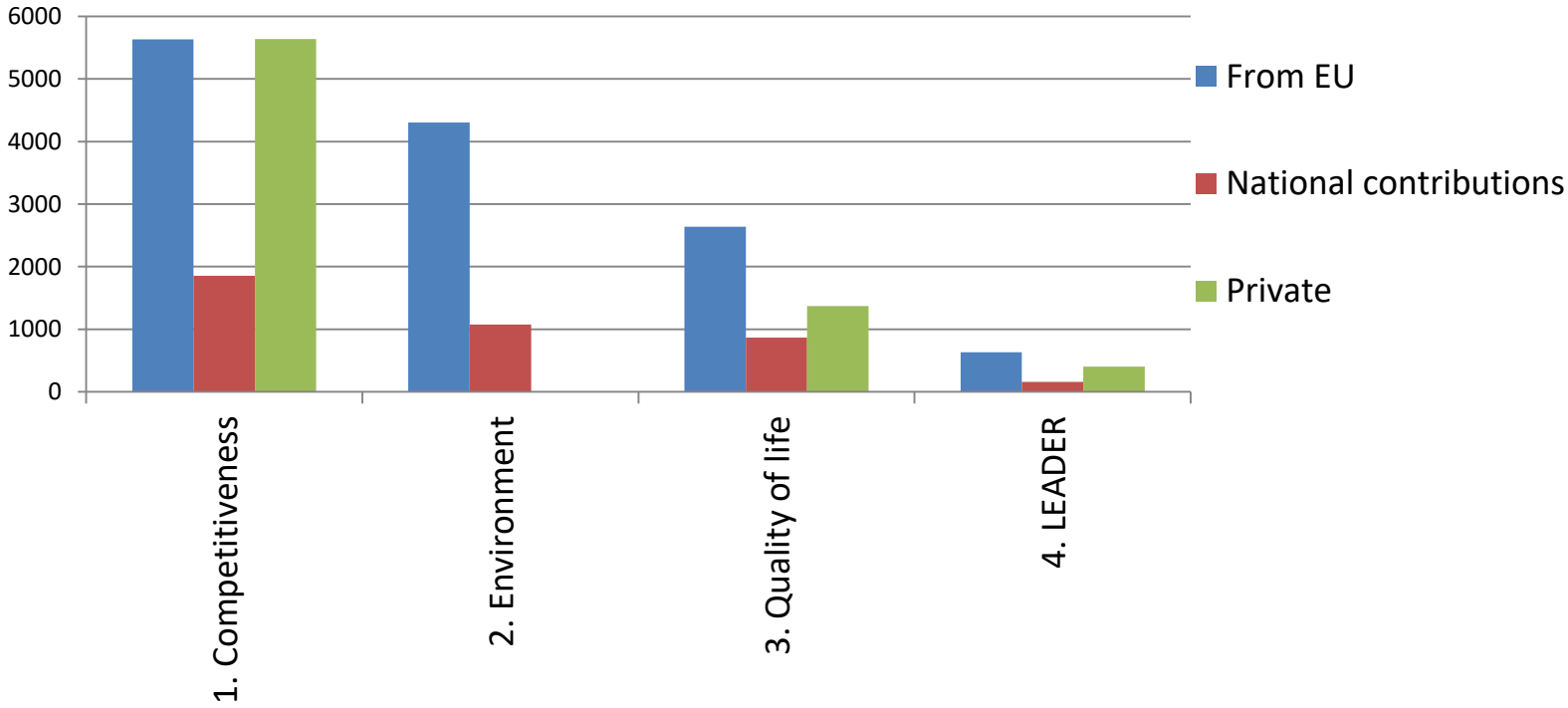
Source: Main Statistical Office , 2011

Unemployment:
cities vs rural areas and farmers vs non-farmers

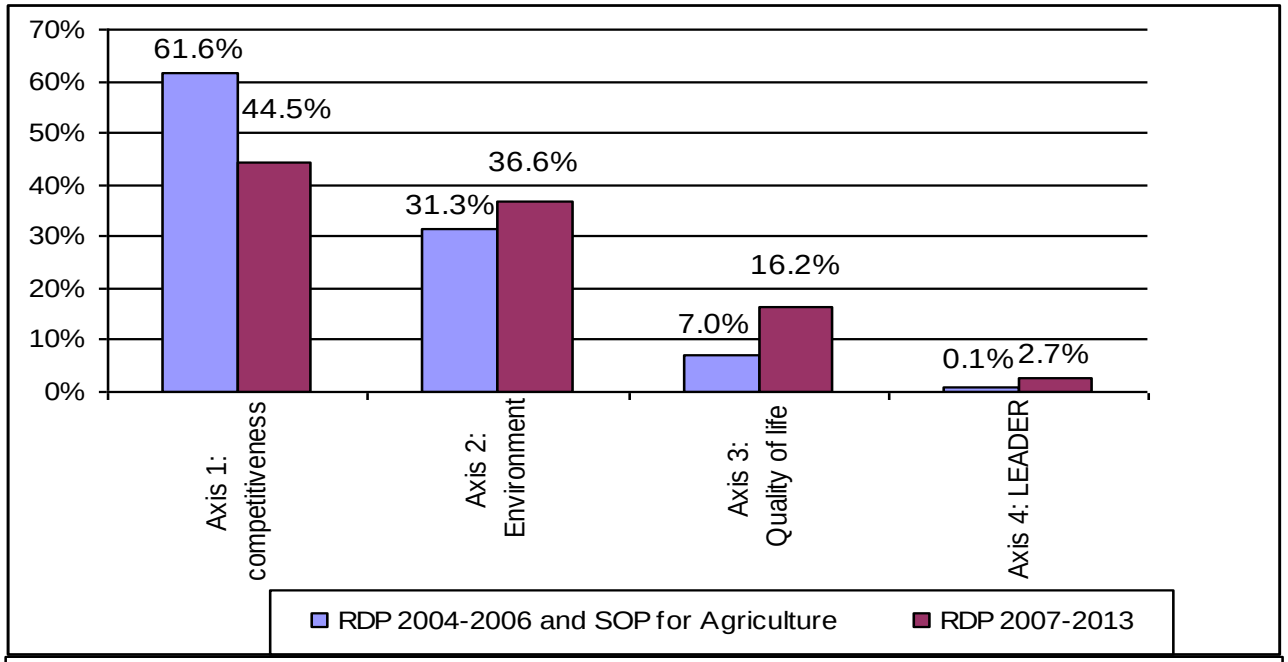


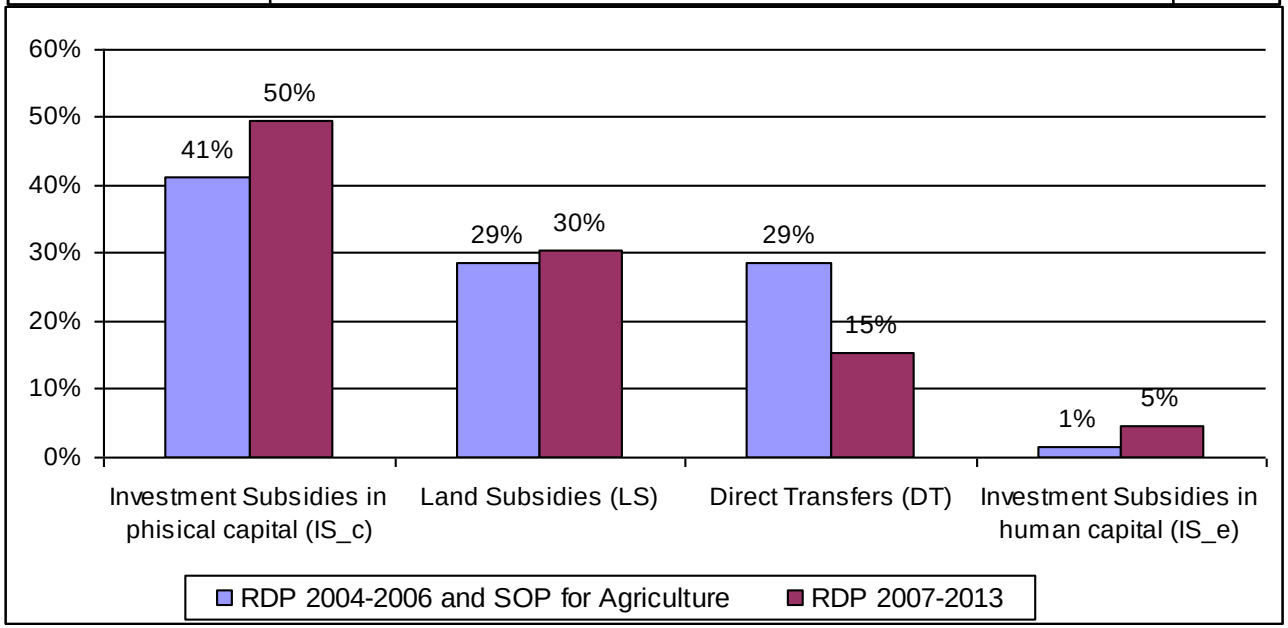
Construction of Rural Development Programme 2007-2013

- 53% of the budget was allocated to (1) **competitiveness** (€13,123.16 million); 22% to (2) **environment** (€5,377.11 million), 20% to (3) **quality of life** (€4,869.22 million) and 5% to (4) **LEADER** (€1190.62 million), with 1% available to fund 'technical assistance' (€266.6 million).

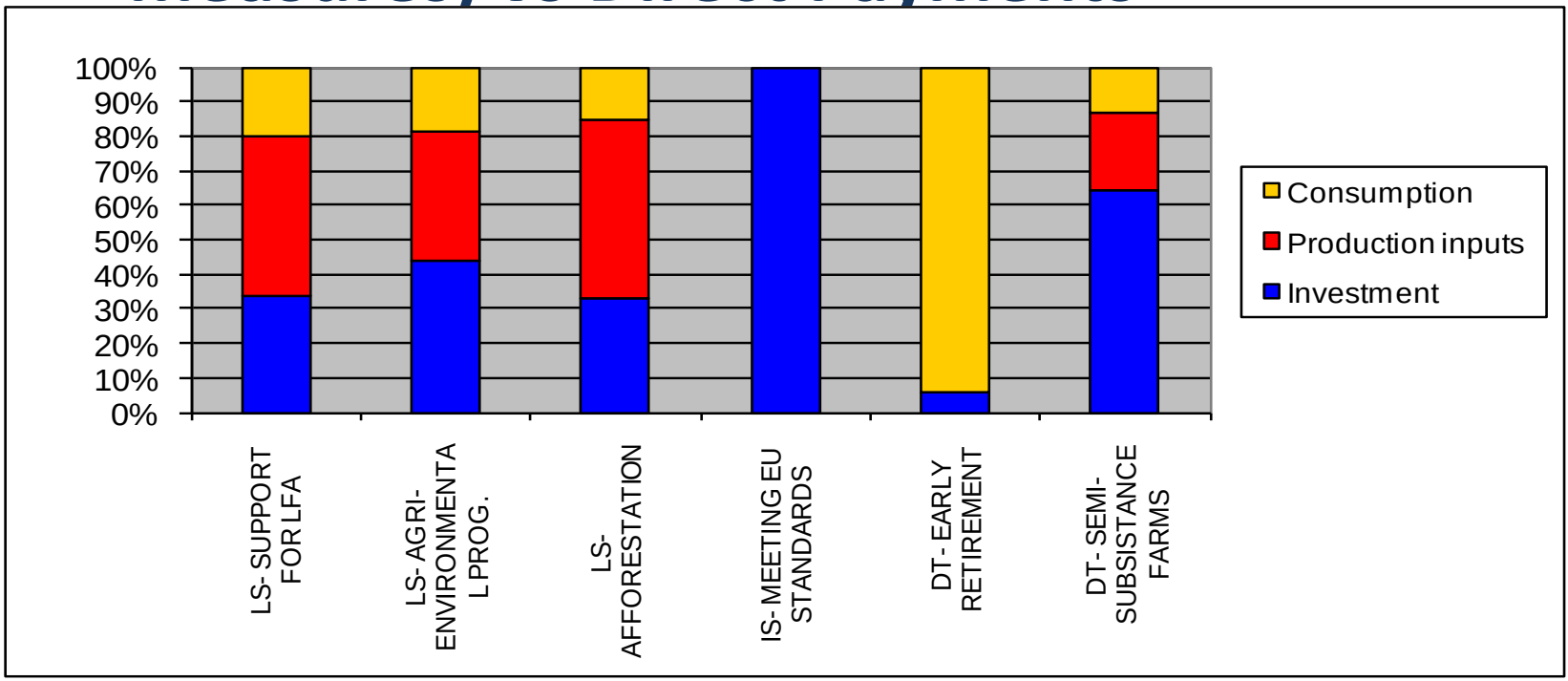


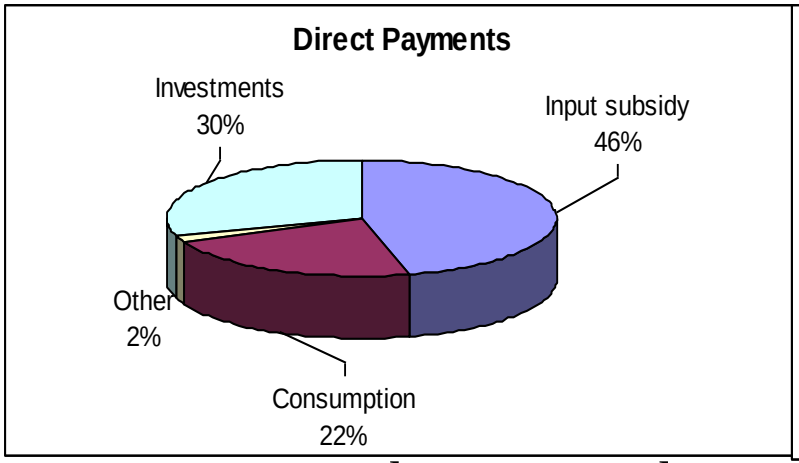
RDPs spend according to different classifications

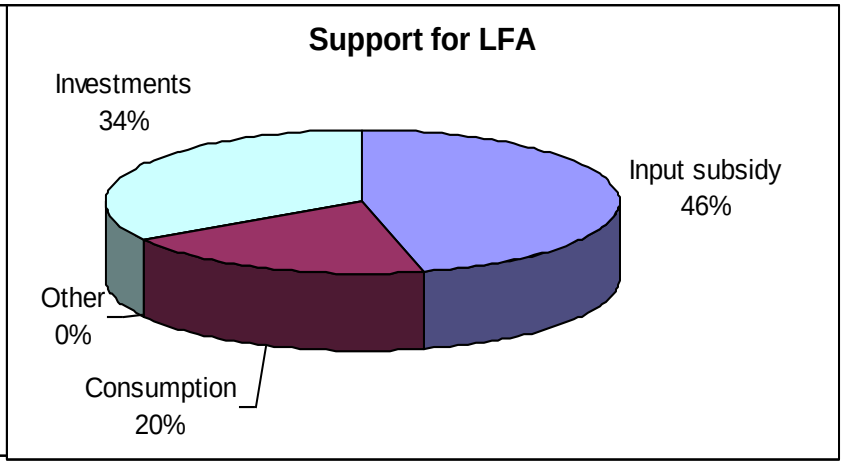




Directions of spending the funds from RDP (by measures) vs Direct Payments

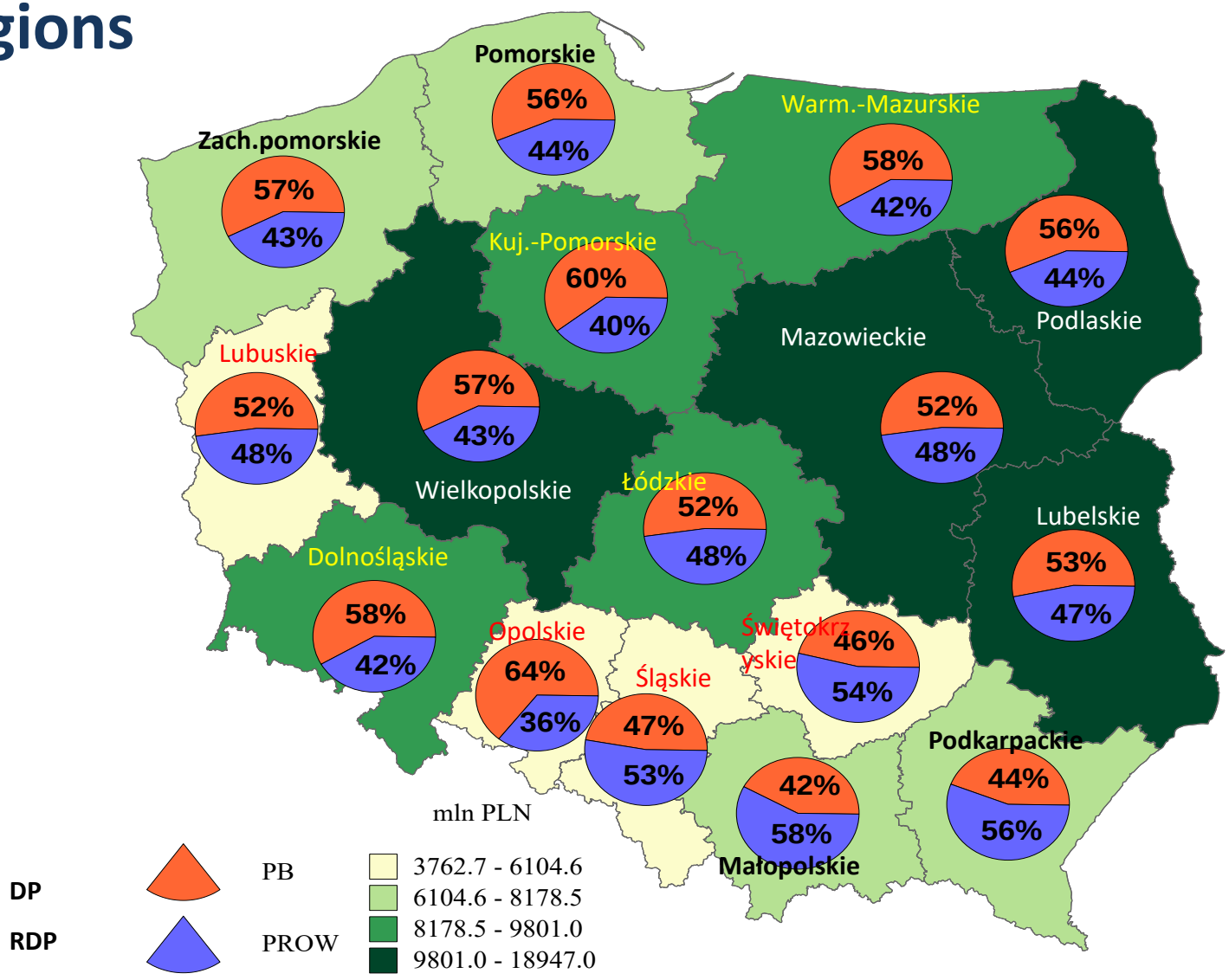






Source: own calcuations and MoA survey

Regional distribution of RDP 2007-2013 by NUTS2 regions



DP = direct payments to farmers (Pillar 1)

RDP = rural development programme (Pillar 2)

Method:

- Model - Regional CGE - POLTERM
- Data
- Simulation scenarios

POLTERM: a bottom-up multi-regional model of Poland

- POLTERM is an implementation of the TERM model (Horridge et al. 2005) to the Polish economy.
- It is described in details in the recently published paper:

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The consequences of Less Favoured Area support: a multi-regional CGE analysis for Poland

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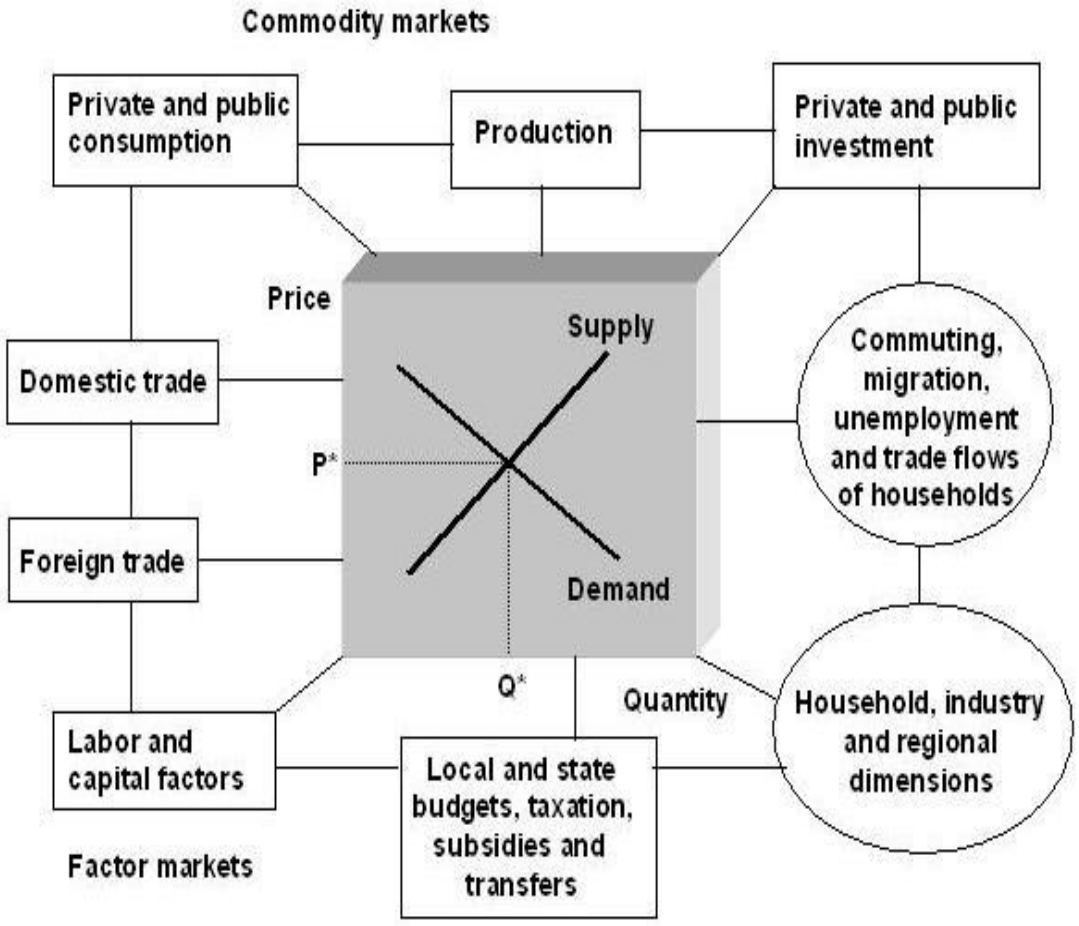
On accession to the EU, Poland, one of the most agricultural countries in Europe, became eligible for the Common Agricultural Policy (CAP), which it perceived as a chance to develop its rural economy. However, in constructing its Rural Development Programme 2007–2013, Poland directed the largest funding share to Less Favoured Areas (LFA) – a controversial measure, which has been accused of poor targeting and ineffectiveness. We analyse the economic consequences of LFA support for all 16 Polish regions according to Nomenclature of Territorial Units for Statistics (NUTS2), using a multi-regional computable general equilibrium model with LFA detail.

- A bottom-up multi-regional comparative static CGE model that explicitly captures the behaviour of industries, households, investors, government and exporters at the regional level.
- Producers in each region are assumed to minimize production costs subject to industry-specific production technologies.
- A representative household in each region purchases goods in order to obtain the optimal bundle in accordance with its preferences and disposable income.

Regional CGE for Poland – POLTERM



- **20 agricultural activities** (a.o. wheat, rye, barley, potatos, sugarbeets, fruit and vegetables, etc.)

- **8 processed food products** (np. beefmeat, porkmeat, pultry, sugar, diary products, etc.)

- **30 industrial sectors** (e.g. textiles, chemicals, paper, etc)

- **24 services** (transport, trade, construction, education, health, public administration, etc)

- **2 representative households**: rural and urban

- **two types of land (LFA and non-LFA), one type of labour and one type of capital**

- **Migrations** and regionally mobile labour force

- **16 NUTS2 regions**, among which is **interregional trade**

DATA sources

- Make and use tables of 2005 and 2010 – national versions from the Polish Statistical Office and own regionalisation, based on regional accounts from the regional Polish Main Statistical Offices
- 16 regions (NUTS2) and 88 sectors (some aggregated)
- Regional distribution of funding for Direct Payments and RDP measures from the Polish Ministry of Agriculture for 2007-2013
- Interregional trade – based on a gravity rule
- Elasticities – calculated and compared with other models (LEITAP, CAPRI, etc.)

Data

- Individual measures were grouped according to their economic nature into: direct income transfers, land subsidies, investment in infrastructure, production subsidies.

- Examples of calsification of RDP measures:
  - income transfers (e.g. early retirement)
  - land subsidies (e.g. agri-environmental measures)
  - Investment subsidies (e.g. modernization of farms)
  - Production subsidies (e.g. producer groups)

Policy scenarios for Rural Development Policy (RDP)

Limits of funds based on Council Regulation (EC) No 1698/2005

- **Scenario 0:** factual allocation of RDP funds: 44.5% - Axis1, 36.6 % -Axis2, 16.2% -Axis3 and 2.7%-Axis4.
- **Scenario 1: maximising environment -** 75% Axis2, 10% - Axis1, 10% - Axis3 and 5%- Axis4.
- **Scenario 2**: **maximasing competitiveness:** 60% - Axis1, 25% - Axis2, 10% - Axis3 and 5% - Axis4.
- **Scenario 3**: **maximising quality of life:** 60% Axis3, 10% - Axis1, 25% - Axis2, and 5% - Axis4.
- **Scenario 4**: **impact of LFA support** on rural employment
- **Scenario 5: impact of Direct Payments** 2007-2013

Results for jobs in rural areas:

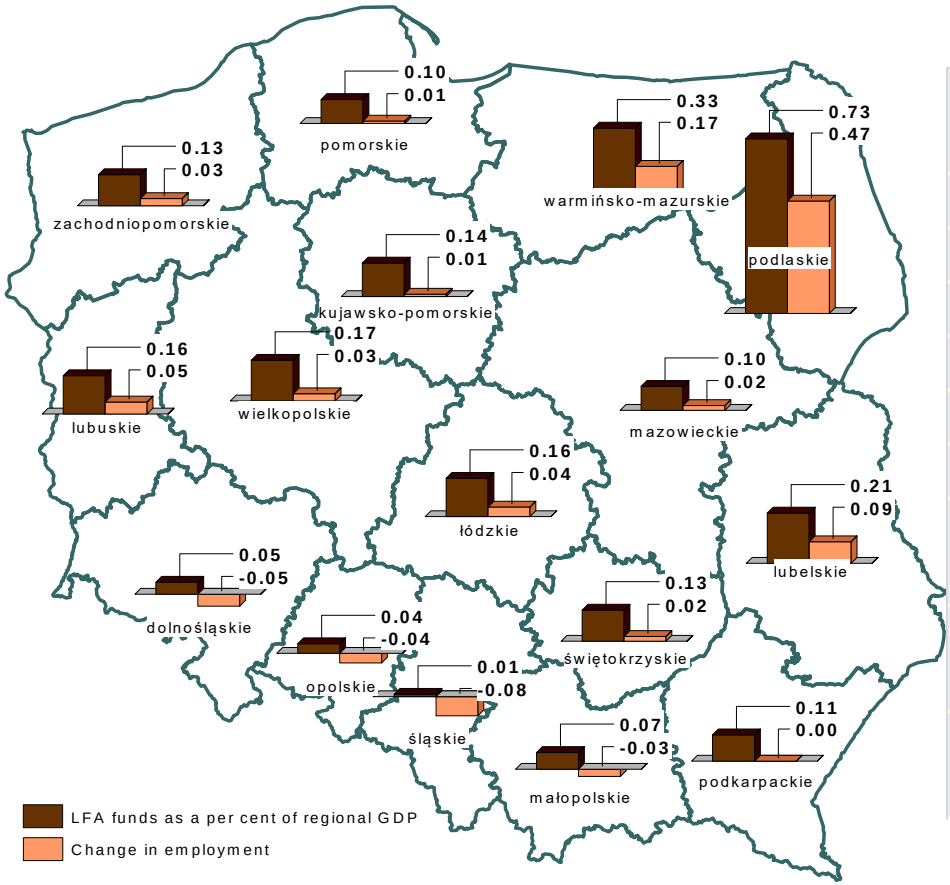
- Impact of RDP as a whole
- Impact of individual RDP measure - LFA support
- Comparison of impact from RDP vs Direct payment

Results of scenarios from S0 to S3

- **Rural jobs from various RDP scenarios**

	Scenario0: Factual RDP 2007-2013	Scenario 1: Max Environment	Scenario 2:Max Competitiveness	Scenario 3: Max Quality of life
RealGDP	**0.93**	**0.88**	**0.92**	**1**
Real Hou consum	1.8	1.68	1.81	1.83
Real Invest	1.31	1.28	1.29	1.4
Real Gov Expend	2.08	1.96	2.1	2.09
AggEmploy	**0.23**	**0.23**	**0.23**	**0.25**
Real wages	**2.33**	**2.28**	**2.29**	**2.52**
Employment in agriculture	**-0.65**	**-0.28**	**-0.73**	**-0.68**
Employment in industry	**2.35**	**2.26**	**2.27**	**2.71**
Employment in services	**0.51**	**0.46**	**0.52**	**0.51**

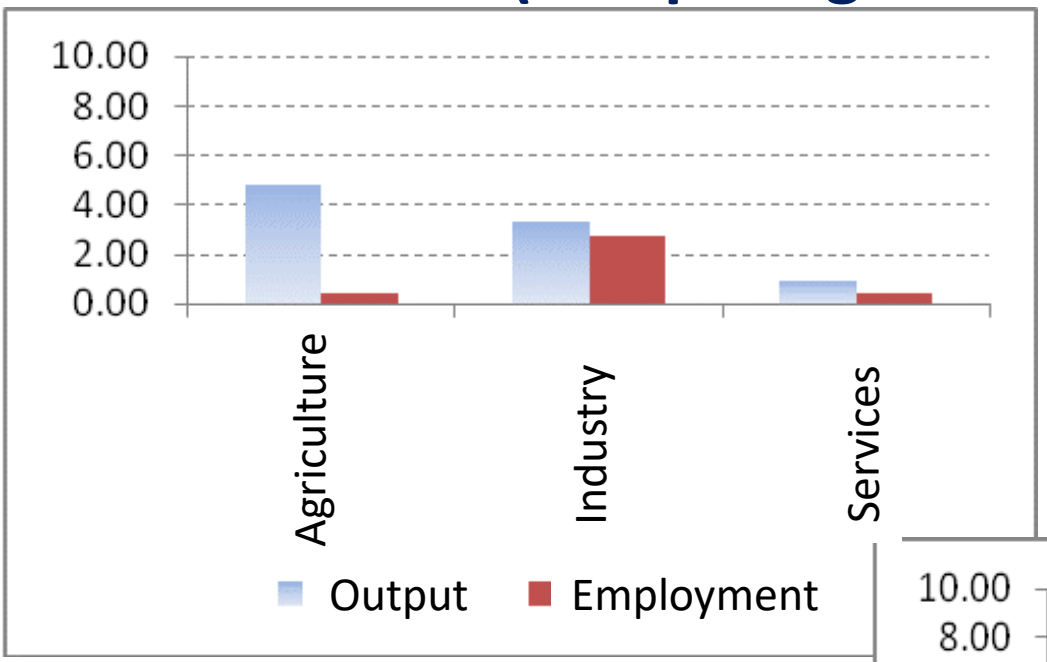
Results of Scenario 4: impact of LFA on jobs



	Scenario 0: RDP 2007-2013	Scenario 4: LFA 2007-2013
RealGDP	**0.93**	**0.07**
Real Hou consum	1.8	0.21
Real Invest	1.31	0.05
Real Gov Expend	2.08	0.17
AggEmploy	**0.23**	**0.02**
Real wages	**2.33**	**0.13**
Employment in agriculture	**-0.65**	**0**
Employment in industry	**2.35**	**0.08**
Employment in services	**0.51**	**0.06**

Employment effects of Pillar 1 vs Pillar 2 (comparing Scenario 1 and 5)

Pillar 1



Negligible effect of Pillar 1 on agricultural employment and services. More pronounced effect on industry via multiplier effect.

Pillar 2

Net outflow effect of Pillar 2 on agricultural sector employment but some increase in industry (lesser than Pillar 1) and services (similar to Pillar 1)

Conclusions :

from macro- to micro-economic perspective

Conclusions

- **Pillar 1** :
  - only **indirect effect** on employment
  - in long run a pressure on **sustaining the agricultural employment** but larger effect on increase in industrial employment
- **Pillar 2** :
  - **direct effect on employment** via particular measures
  - The **weak direct effect** of Pillar 2 on jobs stems from the the fact that **some measures reduce employment** (early retirement) some other **sustain** it (LFA) and only a few relatively underinvested measures **create new jobs directly** (micro-enterprises, diversification)
  - Overall **pressure on outflow from agricultural employment** and slight increase in industrial (and to lesser extent) employment in services
  - **Indirect increasing effect on non-agricultural jobs through multiplier effects** -farmers spend these funds on various goods and services thus boosting those sectors' output and employment

Conclusions

- There was a hypothetical chance to construct **RDP which would bring a lager positive employment effects (more funds for Axis1 and 3 at expense of Axis2)**
- From all the analysed scenarios **the highest increase in employment** and in particular **in industrial employment** is achieved in the scenario **maximising spend on Axis-3** (quality of life).
- The **largest outflow from agricultural sector** and the **highest increase in employment in services** is achieved in scenario maximising funds on **Axis-1** (competitiveness)
- LFA measure, indeed as it was designed, is **maintaining the employment** in rural areas, so the agricultural employment would otherwise be lower (the case of Poland at least).
- Despite of **zero net effect of LFA on agricultural jobs**, there are **large regional differences** – in some regions pressure on increase in agricultural employment (than it would otherwise be) is noticeable.

Thank you for your attention

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