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

Prof. Katarzyna Zawalińska

160th EAAE Seminar

1-2.12.2016 Warsaw
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

Agriculture, hunting and fishing: 41%
Mining and quarling: 19%
Trade: 10%
Construction: 5%
Public administration: 5%
Transport: 5%
Education: 4%
Health and social services: 4%
Housing: 2%
Hotels and Restaurants: 1%
Financial services: 1%
Other: 2%

Source: Main Statistical Office, 2011
Unemployment: cities vs rural areas and farmers vs non-farmers

- GDP growth
- Unemployment rate in cities
- Unemployment rate - farmers
- Unemployment rate - nonfarmers
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

Axis 1: competitiveness
61.6%
Axis 2: Environment
44.5%
31.3%
Axis 3: Quality of life
36.6%
16.2%
Axis 4: LEADER
7.0%
0.1%
0.1% 2.7%

Investment Subsidies in physical capital (IS_c)
41%
50%

Land Subsidies (LS)
29%
30%

Direct Transfers (DT)
29%
15%

Investment Subsidies in human capital (IS_e)
1%
5%
Directions of spending the funds from RDP (by measures) vs Direct Payments

Source: own calculations 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:

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.
- 20 agricultural activities (a.o. wheat, rye, barley, potatoes, 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**: maximising 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

<table>
<thead>
<tr>
<th></th>
<th>Scenario 0: Factual RDP 2007-2013</th>
<th>Scenario 1: Max Environment</th>
<th>Scenario 2: Max Competitiveness</th>
<th>Scenario 3: Max Quality of life</th>
</tr>
</thead>
<tbody>
<tr>
<td>RealGDP</td>
<td>0.93</td>
<td>0.88</td>
<td>0.92</td>
<td>1</td>
</tr>
<tr>
<td>Real Hou consum</td>
<td>1.8</td>
<td>1.68</td>
<td>1.81</td>
<td>1.83</td>
</tr>
<tr>
<td>Real Invest</td>
<td>1.31</td>
<td>1.28</td>
<td>1.29</td>
<td>1.4</td>
</tr>
<tr>
<td>Real Gov Expend</td>
<td>2.08</td>
<td>1.96</td>
<td>2.1</td>
<td>2.09</td>
</tr>
<tr>
<td>AggEmploy</td>
<td>0.23</td>
<td>0.23</td>
<td>0.23</td>
<td>0.25</td>
</tr>
<tr>
<td>Real wages</td>
<td>2.33</td>
<td>2.28</td>
<td>2.29</td>
<td>2.52</td>
</tr>
<tr>
<td>Employment in agriculture</td>
<td>-0.65</td>
<td>-0.28</td>
<td>-0.73</td>
<td>-0.68</td>
</tr>
<tr>
<td>Employment in industry</td>
<td>2.35</td>
<td>2.26</td>
<td>2.27</td>
<td>2.71</td>
</tr>
<tr>
<td>Employment in services</td>
<td>0.51</td>
<td>0.46</td>
<td>0.52</td>
<td>0.51</td>
</tr>
</tbody>
</table>
### Results of Scenario 4: impact of LFA on jobs

<table>
<thead>
<tr>
<th>Region</th>
<th>Scenario 0: RDP 2007-2013</th>
<th>Scenario 4: LFA 2007-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>RealGDP</td>
<td>0.93</td>
<td>0.07</td>
</tr>
<tr>
<td>Real Hou consum</td>
<td>1.8</td>
<td>0.21</td>
</tr>
<tr>
<td>Real Invest</td>
<td>1.31</td>
<td>0.05</td>
</tr>
<tr>
<td>Real Gov Expend</td>
<td>2.08</td>
<td>0.17</td>
</tr>
<tr>
<td>AggEmploy</td>
<td>0.23</td>
<td>0.02</td>
</tr>
<tr>
<td>Real wages</td>
<td>2.33</td>
<td>0.13</td>
</tr>
<tr>
<td>Employment in agriculture</td>
<td>-0.65</td>
<td>0</td>
</tr>
<tr>
<td>Employment in industry</td>
<td>2.35</td>
<td>0.08</td>
</tr>
<tr>
<td>Employment in services</td>
<td>0.51</td>
<td>0.06</td>
</tr>
</tbody>
</table>
Employment effects of Pillar 1 vs Pillar 2 (comparing Scenario 1 and 5)

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

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 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 larger 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

E-mail: kzawalinska@irwirpan.waw.pl

IRWiR PAN
Nowy Świat Str. 72
00-330 Warsaw

www.irwirpan.waw.pl