Real GDP/Capita is the market value of goods and services available to a country’s citizens and as such is regarded as the best measure of welfare.

The Case
Earlier research on growth performance across Poland’s sixteen regions has highlighted the presence of serious economic disparities, especially down the Eastern wall of the country.

Objective
The aim of this study is to show that a process of convergence between the Eastern regions of the country and the comparatively better developed Western regions has been initiated.

Methodology: The Decomposition Technique
Regional Welfare (Real GDP Capita)
Income Distribution Effects (% of National Level 2005)

Polish Real GDP/Capita = 23,292 PLN (100%)
Av. USD = 3.23 PLN
Year 2005

Best performing Poland B regions around 25% of the national level

Are Poland B regions showing any signs of convergence?

Measuring Convergence in Welfare
Chosen Methodology

Decomposition Technique for Real GDP Capita

\[
\Delta \frac{gdp}{pop} = \Delta \frac{gdp}{pop} + \Delta \frac{hours}{employment} + \Delta \frac{employment}{pop^{15}} + \Delta \frac{pop^{15}}{pop}
\]

Where:
GDP = gross domestic product
Pop = total population
Hours = total number of hours worked
Employment = number of people employed
Pop^{15} = Population of working age (aged 15 and above)
Polish Real GDP Capita Decomposed
Average Annual Percentage Change (2000-2005)

- Av. Real GDP Capita: 5.95%
- Av. Sum of variables: 5.75%
- Margin of Error: 0.19%

GDP/Hours

- Hours/empl: 5.71%
- Empl/Population: 0.66%
- Demographic Factor: 0.37%

Regional Labour Productivity Performance
Average Yearly Change 2000-2005 (%)

Polish Labour Productivity increased by a total 28.6% over 2000-2005 (Av. 5.7%)

Regions Achieving > 4.5%
1. Mazowieckie
2. Podlaskie
3. Podkarpackie
4. Lubuskie
5. Warmińsko-Mazurskie
6. Śląskie

> 4.5%
< 4.5%
Labour Productivity 2000-2005

<table>
<thead>
<tr>
<th>Region</th>
<th>Labour Productivity 2005 GDP/Hours (PLN)</th>
<th>Labour Productivity 2000-2005 (Total Change %↑)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Podkarpackie</td>
<td>9,405</td>
<td>28.6%</td>
</tr>
<tr>
<td>Lubelskie</td>
<td>10,710</td>
<td>18.5%</td>
</tr>
<tr>
<td>Podlaskie</td>
<td>11,622</td>
<td>30.9%</td>
</tr>
<tr>
<td>Warmińsko-Mazurskie</td>
<td>11,630</td>
<td>23.8%</td>
</tr>
<tr>
<td>Świętokrzyskie</td>
<td>11,931</td>
<td>10.1%</td>
</tr>
<tr>
<td>Opolskie</td>
<td>13,091</td>
<td>11.6%</td>
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<tr>
<td>Małopolskie</td>
<td>14,430</td>
<td>17.5%</td>
</tr>
<tr>
<td>Kujawsko-Pomorskie</td>
<td>14,681</td>
<td>10.2%</td>
</tr>
<tr>
<td>Lubuskie</td>
<td>15,821</td>
<td>25.0%</td>
</tr>
<tr>
<td>Zachodniopomorskie</td>
<td>15,430</td>
<td>3.8%</td>
</tr>
<tr>
<td>Łódzkie</td>
<td>16,782</td>
<td>20.0%</td>
</tr>
<tr>
<td>Pomorskie</td>
<td>16,961</td>
<td>18.1%</td>
</tr>
<tr>
<td>Poland</td>
<td>18,294</td>
<td>28.6%</td>
</tr>
<tr>
<td>Dolnośląskie</td>
<td>18,513</td>
<td>17.9%</td>
</tr>
<tr>
<td>Wielkopolskie</td>
<td>19,862</td>
<td>18.6%</td>
</tr>
<tr>
<td>Śląskie</td>
<td>20,104</td>
<td>23.7%</td>
</tr>
<tr>
<td>Mazowieckie</td>
<td>32,554</td>
<td>31.8%</td>
</tr>
</tbody>
</table>

Regional Welfare 2005

Relationship between hours worked & real output per head

Poland:  Hours = 1,683 GDP/Capita = 23,297
Mazowieckie:  Hours = 1,526 GDP/Capita = 37,029
Podlaskie:  Hours = 2,158 GDP/Capita = 17,341
1. Polish real gdp/capita grew by 6% over the period 2000-2005.
2. Labour productivity was the most important component, increasing by 5.7% over time.
3. Three out of the five Eastern wall regions (Poland B) were among those achieving the highest increases in labour productivity, suggesting that some early signs of convergence are evident.
4. This is also consistent with some of the observed shifts in the structure of employment in the country – agriculture to industry.
5. Poland B regions overall tend to work far greater hours in contrast to the developed west of the country and generate lower output/income per head ......

Concluding Points