ANALYSIS OF SOCIAL PHENOMENA IN A SELECTED COUNTY OF POLAND USING THE TREND FUNCTION

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Summary

The work aims at an analysis of the social assistance in a selected county of Poland using methods of the analysis of social phenomena dynamics. The Strategy of the Social Problems Solution was presented with a particular consideration of unemployment. The study comprised the period of three years 2004-2006. The most useful tool for the analysis were the trend functions with the seasonal fluctuations. On such a basis the prognoses for the individual phenomena were estimated.

Key words: social assistance, dynamics analysis, prognoses, trend functions.

Introduction

Political-economic transformations in Poland, beyond the unquestioned achievements, brought numerous social problems connected with the social divisions, the unemployment crisis, the symptoms of isolation and marginalization of certain individuals and groups.

Among the actual recipients of the social assistance a predominant group consists of people at a productive age who, due to the loss of job and/or a considerably low income do not possess satisfactory means to meet their needs, search a support in the solution of the considerable everyday problems.

A formal legal form of the social assistance services at each level of the local authorities is set in the Social Assistance Act of March 12, 2004 (Dz. U. Nr 64, item 593). Social assistance was defined in section 2 (1) of this act, as the institution of the state social policy which goal is to enable people and families to overcome difficult life situations which are beyond their own means, possibilities and powers.

The right to obtain financial support from the social welfare is subject to the satisfaction of two basic conditions: the income criterion and the occurrence of circumstances (a cause, a difficult situation) justifying the qualification for the social assistance. The income criterion has been set as an amount and varies according to the number of the household members and their age. The allowances and services of the social welfare include: constant benefit, temporary benefit, specific welfare, specific goal welfare, state and invalidity pension insurance contributions.

CHARACTERISTICS OF THE STUDY OBJECT

The studied county is inhabited by 47 671 people while the population density amounts to 47 people on 1 km². There are 4803 enterprises on the area, of which 229 in a public sector and 4574 in a private one. The county comprises 5 townships.

The social assistance duties are realized by the state and local administrations as well as by the non-government organizations.
Table 1. Reasons of qualified social assistance in the county – dynamics of changes

<table>
<thead>
<tr>
<th>CAUSES</th>
<th>Poverty</th>
<th>Helplessness in children's care</th>
<th>Unemployment</th>
<th>Invalidity</th>
<th>Long-lasting disease</th>
<th>Alcoholism</th>
</tr>
</thead>
<tbody>
<tr>
<td>DYNAMICS 2006/2004</td>
<td>1,06</td>
<td>1,06</td>
<td>1,13</td>
<td>1,04</td>
<td>1,45</td>
<td>0,99</td>
</tr>
</tbody>
</table>

Source: Author's own elaboration.

12293 inhabitants of the county receive social welfare. That constitutes 25.7% of the total population of the county. These are people whose income does not exceed the income criterion qualifying for the social welfare payments.

Table 2. Structure of jobseekers age

<table>
<thead>
<tr>
<th>Age interval</th>
<th>Total</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 – 24 years</td>
<td>738</td>
<td>401</td>
<td>337</td>
</tr>
<tr>
<td>25 – 34 years</td>
<td>1000</td>
<td>561</td>
<td>439</td>
</tr>
<tr>
<td>35 – 44 years</td>
<td>711</td>
<td>377</td>
<td>334</td>
</tr>
<tr>
<td>45 – 54 years</td>
<td>1053</td>
<td>519</td>
<td>534</td>
</tr>
<tr>
<td>55 plus</td>
<td>284</td>
<td>135</td>
<td>149</td>
</tr>
</tbody>
</table>

Source: Author's own elaboration.

The largest groups include jobseekers between 45 – 54 years of age, junior high school graduates or lower, with no work experience. The longest unemployment period is confined to the people between 45 – 54 years of age, 55.9% of them could not find a job over 12 months, while 64.8% of them are jobless over two years. Among women, about 62% between 45 – 54 years of age cannot find a job over 12 months, while 71% of them remain jobless over two years. The fastest in finding a job are college graduate jobseekers, whereas the longest unemployment period characterizes junior high graduates and lower.

Table 3. Structure of jobseekers’ education.

<table>
<thead>
<tr>
<th>Education level</th>
<th>Total of jobseekers</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>College</td>
<td>139</td>
<td>82</td>
</tr>
<tr>
<td>Post-high and vocational school</td>
<td>890</td>
<td>596</td>
</tr>
<tr>
<td>High school general</td>
<td>331</td>
<td>235</td>
</tr>
<tr>
<td>Vocational BASIC</td>
<td>1058</td>
<td>476</td>
</tr>
<tr>
<td>Junior high and lower</td>
<td>1368</td>
<td>645</td>
</tr>
</tbody>
</table>

Source: Author's own elaboration.

Table 4. Percentage of families under social assistance program inhabiting rural areas in county X townships.

<table>
<thead>
<tr>
<th>Township</th>
<th>% families qualified for social assistance inhabiting rural areas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2004</td>
</tr>
<tr>
<td>T1</td>
<td>61,58</td>
</tr>
<tr>
<td>T2</td>
<td>100</td>
</tr>
<tr>
<td>T3</td>
<td>75,00</td>
</tr>
<tr>
<td>T4</td>
<td>44,85</td>
</tr>
<tr>
<td>T5</td>
<td>17,54</td>
</tr>
<tr>
<td>Total</td>
<td>51,43</td>
</tr>
</tbody>
</table>

Source: Author's own elaboration.

Methods
As the structure of the economical stochastic process is not known a priori, it has to be recognized on the basis of the realization of the economic process, i.e. a sequence of time. The main question is thus the establishment of an analytic form of the trend function $P_t$ and the function of the periodical fluctuations $C_t$. Most frequently the trend function approximating the trend $Y_t$ assumes the linear form of the trend (M.Piłatowska 2006):

$$Y_t = \text{linear trend}$$

If, besides the trend, there are periodical fluctuations $S_t$, the description of these fluctuations can incorporate a model with 0-1 variables of the form:

$$Q_i = \begin{cases} 1 & \text{for the } i\text{-th sub-period of the cycle}, \\ 0 & \text{for the remaining sub-periods}. \end{cases}$$

Parameters $d_i$ called seasonal indexes, characterize the seasonal effect in a given sub-period of the cycle, namely the absolute increase and/or decrease of the researched phenomenon in relation to the average level. The model of the linear trend and the seasonal fluctuations (periodical, constant) will thus assume the form:

$$Y_t = 30.78 + 2.41 t - 4.81 Q_{1t} - 0.21 Q_{2t} + 2.38 Q_{3t} + 2.64 Q_{4t}$$

The consecutive quarters indicated an average increase of the welfare number by 2.41 units. In the first and second quarters the number of provisions was below the trend line on an average, while in the third and fourth ones it was lower than the trend value. The model adjustment amounts to 83.81%.

The number of temporary benefit payments was diminishing in the consecutive quarters by 15.22% on an average.

Analysis

Regression functions of the quantity and the value of benefits were estimated. All functions highly match the empirical values. The functions parameters are statistically significant.
Yt = 540,01 − 15,22t − 85,58Q1t − 136,03Q2t − 107,81Q3t +
329,42Q4t

In the first, second, and third quarters the number of provisions was below the trend line on
an average, whereas in the fourth ones it was higher than the trend value.

The number of people qualified for a **jobseekers’ temporary welfare** was diminishing
in the consecutive quarters by 3.19 units on an average.

Yt = 249,55 − 3,19t − 30,61Q1t − 47,76Q2t + 8,09Q3t +
70,28Q4t

In the first and second quarters the number of people was below the trend line on an aver-
age. In the third and fourth ones it was higher than the trend value.

The number of people qualified for a **temporary invalidity welfare** was diminishing
in the consecutive quarters by 0.81 units on an average.

Yt = 29,70 − 0,81t − 3,64Q1t − 6,49Q2t − 2,34Q3t +
12,47Q4t

In the first, second and third quarters the number of people was below the trend line on an
average, while in the fourth ones it was higher than the trend value. The highest deviation off
the trend line occurred in the fourth quarters.

The **amount of temporary benefit payments** was increasing in the consecutive quar-
ters by 2 377.47 units on an average.

Yt = 45 699,45 + 2 377,47t − 1 620,13Q1t − 19 874,60Q2t − 12 300,73Q3t +
33 795,46Q4t

In the first, second, and third quarters the amount of financial provisions was lower, whereas
in the fourth ones it was higher than the trend value. The highest deviation off the trend
line occurred in the fourth quarters.

The **number of people in families qualified for a temporary benefit** was diminishing
in the consecutive quarters by 20.59 units.

Yt = 1 125,03 − 20,59t − 187,72Q1t − 157,13Q2t + 52,13Q3t +
292,72Q4t

In the first and second quarters the number of people in the families qualified for a tempo-
rary benefit was lower, whereas in the third and fourth ones it was higher than the trend value
on an average. The highest deviation off the trend line occurred in the fourth quarters.

Diagram 2. Number of people qualified for the specific welfare and natural provisions in
2004-2006

![Diagram](image)

In the years 2004-2006 a number of people qualified for other specific welfare or natural
provisions was increasing every half year by 196.29 persons on an average.
Diagram 3. Amount of specific welfare payments and natural provisions in 2004-2006 (in PLN)

In the years 2004-2006 the amount of other specific welfare payments and/or natural provisions was increasing every half year by PLN 46 266.71 on an average.

Conclusion

The basic sources of the maintenance of the poor in the years 2004-2006 were mainly the social assistance provisions. The poverty threatens the substantial foundations of the family existence, decreases the educational opportunities of their children, favors the attitudes of passiveness, apathy, decline of social and professional activity. The scope of social marginality expands.

The families minimize expenses on food and other consumptive goods in order to reduce their percentage in the family expenses as they are not frequently able to to pay all their monthly commitments.

In the years 2004-2006, on an average, 491 families qualified for the social assistance in a township, those families obtained provisions both from the township own and also commissioned resources. 1539 people in those families qualified for various benefits.

Among the families qualified for the social assistance, the worst situation is observed in those with jobseeker members.

The analysis of the causes qualifying for the social assistance on the basis of the authority decisions and environmental inquiries in the years 2004-2006 results in the following:

• 67% people qualified for the social assistance remain in poverty due to independent causes. These include: unemployment, low wages, low invalidity pensions or their loss,
• 19% families qualified for the social assistance remain in poverty due to independent causes. These include: helplessness, idleness, negligence of education, disregard of health,
• 14% families remain in poverty due to the associated causes emerging from their mutual interconnection, eg. unsatisfactory qualifications and/or numerous causes of unemployment, costs of commuting and children care exceed a possible income in the case of getting a job away from residence.

Literature
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Dziennik Ustaw Nr 64, 2004

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