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COMPETITIVENESS OF THE ECONOMY AND THE SITUATION IN THE LABOR MARKET – ANALYSIS BASED ON THE EXAMPLE OF POLISH VOIVODSHIPS DURING THE YEARS 2003–2008*

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K e y w o r d s: competitiveness of the economy, regional labor market, unemployment, unemployment rate.

A b s t r a c t

Determination of the influence of the competitiveness of economy on the situation in the voivodship labor markets in Poland during the years 2003–2008 was the goal of the work.

In this paper, in addition to the theoretical part attempting at presenting the influence of competitiveness on the situation in the labor market we also undertake an attempt at statistical-econometric verification of the influence of the competitiveness level on the situation in the voivodship labor markets.

The analyses conducted indicate that the competitiveness level influences the situation in the voivodship labor markets positively during the analyzed period. The voivodships representing the highest competitiveness levels (i.e. Lower Silesian, Silesian and Mazowieckie voivodships) were characterized by the lower average unemployment rate levels and higher average employment rate indicator levels as compared to the voivodships with the lowest level of competitiveness (that group includes Podkarpackie, Świętokrzyskie and Podlaskie voivodships). In the voivodships where the competitiveness level increased the most during the period covered the situation in the labor market (measured by the unemployment rate and employment rate) improved more significantly than in the voivodships in which the level of competitiveness decreased the most. Econometric analyses also confirmed the positive influence of the improvement in the competitiveness level on the situation in the voivodship labor markets.

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KONKURENCYJNOŚĆ GOSPODARKI A SYTUACJA NA RYNKU PRACY – ANALIZA NA PRZYKŁADZIE POLSKICH WOJEWÓDZTW W LATACH 2003–2008

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S ł o w a k l u c z o w e: konkurencyjność gospodarki, regionalny rynek pracy, bezrobocie, stopa bezrobocia.

A b s t r a k t

Celem opracowania jest określenie wpływu konkurencyjności gospodarki na sytuację na wojewódzkich rynkach pracy w Polsce w latach 2003–2008. Oprócz części teoretycznej, w której przedstawiono wpływ konkurencyjności na sytuację na rynku pracy, podjęto również próbę weryfikacji statystyczno-ekonometrycznej wpływu poziomu konkurencyjności na sytuację na wojewódzkich rynkach pracy.

Z przeprowadzonych analiz wynika, że poziom konkurencyjności w analizowanym okresie wpływał pozytywnie na sytuację na wojewódzkich rynkach pracy. Województwa o najwyższym poziomie konkurencyjności (tj. województwa: dolnośląskie, śląskie i mazowieckie) charakteryzowały się niższym przeciętnym poziomem stopy bezrobocia oraz wyższym przeciętnym poziomem wskaźnika zatrudnienia w porównaniu z województwami o najniższym poziomie konkurencyjności (do tej grupy należą województwa: podkarpackie, świętokrzyskie i podlaskie). W województwach, w których poziom konkurencyjności wzrósł najsilniej w badanym okresie, sytuacja na rynku pracy (mierzona poziomem stopy bezrobocia i wskaźnika zatrudnienia) poprawiła się w większym stopniu w porównaniu z województwami, w których poziom konkurencyjności obniżył się najbardziej. Analizy ekonometryczne również potwierdziły pozytywny wpływ poprawy poziomu konkurencyjności na sytuację na wojewódzkich rynkach pracy.

Introduction

During the era of globalization, the problem of competitiveness gains particular importance for all the economies. To be able to increase its share in the international trade, Polish economy must, period by period, increase its competitiveness. It should also be highlighted that improvement of the competitiveness level allows a given economy achievement of a higher production growth rate and a higher level of development in long-term.

In Polish economic literature numerous works concerning labor market and competitiveness of the economy can be found. However, there are no studies attempting at verification of the influence of competitiveness on the situation in the labor market.

Determination of the influence of the competitiveness of economy on the situation in the voivodship labor markets in Poland during the years 2003–2008 was the goal of the work.

Data of the Regional Data Bank presented at the Central Statistical office website: www.stat.gov.pl was used for empirical analyses.

The paper consists of five parts. In part 2 the theoretical hypotheses concerning competitiveness influence on the labor market are presented. Part three consists of two sub-points. Sub-point 3.1 discusses the methodology for computing competitiveness indicators used in this study while sub-point 3.2 is devoted to the analysis of the situation in the labor markets in the voivodships with the highest and the lowest level and dynamics of competitiveness. Part 4 presents the results of econometric analyses concerning the influence of the competitiveness level on voivodship labor markets. Part 5 contains the conclusions drawn from the conducted considerations.

Competitiveness of the economy and labor market – theoretical hypotheses

Undertaking the issue of the influence of economy competitiveness on the labor market at the theoretical level it is worth noticing two circumstances that hinder clear and univocal presentation of the problem first.

First, a number of ambiguities related to the notion of economy competitiveness itself that are found in the literature should be highlighted. Without getting into considerations concerning the notions it is worth drawing attention to three aspects of economy competitiveness highlighted in the literature that is differentiation between the competitive ability, actual competitiveness and competitive position of the economy (MISALA 2008, WZIĄTEK-KUBIAK 2003). The first aspect focuses on the ability to compete for economic benefits, that is the sources of competitiveness determining the future position of the economy; the second highlights the current status and directions of changes in competitiveness while the third highlights the achieved economic results and the position gained in rankings. In the theoretical analyses undertaken here we will consider competitiveness understood as the competitive ability and actual competitiveness because such focus allows more reasonable analysis of the influence of competitiveness on the labor market.

This approach also seems justified from the perspective of the analysis of the influence of competitiveness on economic development, which is discussed in another fragment of the text. The economy competitive position covers numerous elements convergent with the economic development level and as a consequence considering the measures of the competitive position of the economy in the analysis of the influence of competitiveness on economic development would mean partly tautological analyses.

Second, analyzing the influence of economy competitiveness on the labor market one must be aware that the relations between them are of feedback nature. Also the labor market can contribute to the economy competitiveness improvement, in particular when the employment structures are modern, the labor is skilled and mobile and the real wages and demand for labor are highly flexible. In this study, however, we are interested in the influence the other way round, i.e. the influence of competitiveness on the labor market. In particular, we are interested in the question of how the higher level and improvement of economy competitiveness influence two key variables of the labor market, i.e. employment and unemployment.

Analysis of the influence of economy competitiveness on the labor market concerns processes taking place over time. As a consequence the role of time in the mechanisms of competitiveness influence on the labor market should be highlighted. In the theory of economy the short- and long-term effects resulting from various economic events have been identified already a long time ago. We believe that differentiating of the short- and the long-term time perspective is also helpful in analysis of the economy competitiveness influence on the labor market. As a consequence, it is worth referring to two key economic theories in which short-term and long-term mechanisms are highlighted, i.e. the Keynesian theory and the neoclassical theory. The demand and supply effects of investments as well as mechanisms of short-term and long-term economic growth highlighted in those theories also define promising directions for consideration in the analysis of the influence of competitiveness on the labor market.

Considering the short-term effects of economy competitiveness on the labor market it is worth referring to the Harrod's growth model in which the increase in labor productivity is one of the factors determining growth in production (TOKARSKI 2001, pp. 20–45). Assuming that the level and growth of production in short-term are determined by the demand factors, the dynamics of labor productivity plays an important role in determining employment, and indirectly the unemployment. Labor productivity is obviously a category dependent on numerous factors but its links with competitiveness of the economy are many as factors such as increase of labor education, improvement of technical support of labor, modernized employing structures and increased investments, that is factors that are also of major importance for labor productivity increase are important for competitiveness improvement. It can be said that labor productivity increase is an important symptom of improvement in the competitiveness of the economy.

Labor productivity increase may have negative, short-term consequences for the labor market, i.e. it may decrease the employment and increase unemployment. For employers performance of given production orders with

a smaller number of employees might be profitable when the productivity of labor increases. This is presented in Figure 1 that shows the short-term mechanism of the economy competitiveness increase on employment and unemployment. As can be seen in Figure 1, over a short-term perspective, negative consequences of competitiveness increase in employment and unemployment in that economy are possible.

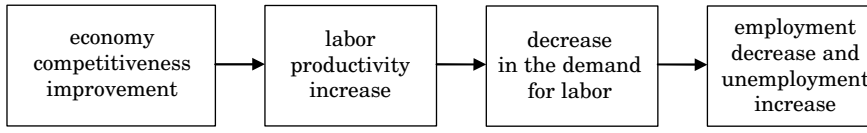

Fig. 1. Competitiveness of the economy and the labor market – short-term effects
Source: own work.

In the long-term perspective, the consequences of economy competitiveness increase for the labor market seem to be different. Over that period the supply mechanisms of the economy play the dominating role as highlighted in the neoclassical theory. In this case the importance of economy competitiveness for the costs of production in enterprises, prices of manufactured products and financial results of enterprises as well as their significance for investment processes and employment effects of the supply consequences of the investments must be considered. The most probable long-term mechanism initiated by economy competitiveness increase looks as follows (Fig. 2). Competitiveness increase means an increase in effectiveness of means of production management, which leads to a decrease in the unit costs of labor and capital. Lower production unit costs result in improvement of production profitability and increased capacity for investments that should increase production as a result of generating the supply effects of investments. The volumes of production may also be increased thanks to the increased demand for products that may appear as a result of a decrease in the prices of products caused by the decrease of the unit costs of production. Increase of production is highly probable as a consequence of the improved competitiveness. In the long-term perspective than positive effects should appear for the labor market as production increase translates, sooner or later, into the increase in demand for labor, increased numbers of the employed and a decrease of unemployment.

Attention should be drawn to the time lags between the increase of competitiveness and the effects in the labor market that occurs in case of the long-term mechanism. The length of that lag is hard to determine, but it should be sufficient for occurrence of the supply effects of investment. It can be assumed that a period of a few years should be sufficient for appearance of the here-discussed effects.

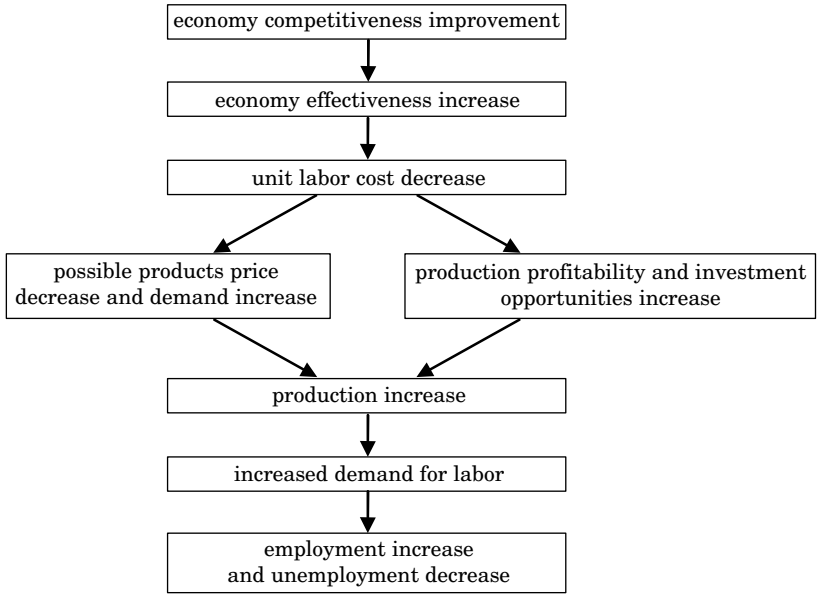

Fig. 2. Competitiveness of the economy and the labor market – long-term effects
Source: own work.

Competitiveness of the economy and the situation in the regional labor markets

Indicators of competitiveness of the economy

Taxonomic competitiveness indicators are the bases for analysis of the influence of economy competitiveness on the voivodship labor markets.

A number of partial variables that in their nature are stimulants (i.e. the higher value of the variable means higher competitiveness) or destimulants (i.e. the higher value of the variable means lower competitiveness) were assumed for the design of taxonomic competitiveness indicators. The partial variables for the design of the taxonomic indicators of competitiveness were assumed on the base of the literature available (see, e.g.: *Sixth Periodic Report on the Social and Economic Situation and Development of the Regions of the European Union*, 1999).

Average values of the following partial variables for the years 2003–2008 were assumed for determination of the taxonomic competitive indicator for voivodships:

1) number of business entities in the REGON database per 1000 residents,

2) share of companies with foreign capital in the total number of entities in the REGON database,

3) investment outlays per capita in PLN '000 (at 2007 prices),

4) value of fixed assets per 1 employee in PLN '000 (at 2007 prices),

5) length of express roads and motorways in km per 1 km^2,

6) share of private sector entities in the total number of entities registered with the REGON database,

7) number of employees in the R&D facilities per 1000 employees,

8) share of people with tertiary education in the total number of the employed,

9) share of employment in market services in the total employment,

10) share of employment in agriculture in the total employment,

11) share of long-term unemployed in the total number of the unemployed.

The here assumed variables are stimulants (variables 1–9) and destimulants (variables 10–11). Those variables were subjected to standardization according to the formula

$$d_{ijt} \frac{X_{ijt}}{\max\limits_{i} x_{ijt}} \tag{1}$$

where:
x_{ijt} is the value of i characteristic in voivodship j during the year t (t = 2003, ..., 2008).

Standardized variables d_{ijt} are compatible and assume values within the range of (0,1). The closer to 1 is the value of the standardized stimulant the relatively better situation in respect of the given characteristic is attributable to the given voivodship.

The computed taxonomic indicator based on the distance in the Euclidean space has the form of:

$$\mathrm{W1}_{jt} = \sqrt{\frac{1}{N} \sum_{i=1}^{N} (d_{ijt} - 1)^2} \tag{2}$$

where:
N is the number of characteristics (where: N = 11).

The computed indicators assume values from the range of (0.1). The higher the value of the W1 indicator, the lower the level of competitiveness characterizing the given voivodship is.

Competitiveness of the economy and the situation in the voivodship labor markets

Let us first have a look at the unemployment rates and employment rates in two groups of voivodships: those representing the highest and the lowest competitiveness level. Both groups of voivodships were identified on the base of the average taxonomic indicator of competitiveness during the years 2003-2008. The group of voivodships with the highest competitiveness consists of voivodships in which the competitiveness index was lower than the average index for all the voivodships decreased by one standard deviation. On the other hand the voivodship with the lowest competitiveness are those for which the taxonomic competitiveness indicator (index) was higher than the average index for all the voivodships increased by one standard deviation. The specification of both groups with the corresponding values of indicators is presented in Tables 1 and 2.

As indicated by Table 1, the highest competitiveness level is encountered in Lower Silesian, Silesian and Mazowieckie voivodships. The list of those voivodships is not surprising although the third place of Mazowieckie voivodship only should be noted. In that last voivodship the labor market indicators during the covered period of the years 2003–2008 were very favorable as the average unemployment rate was 11.8% while the employment rate 64.4%. In the Silesian and Lower Silesian voivodships the labor market indicators were not so favorable. It is worth highlighting that the average unemployment rate in that group of voivodships (at 14.0%) was lower than the average unemployment rate in the voivodships with the highest competitiveness index (15.8%

Table 1

Voivodships representing the highest level of competitiveness during the years* 2003–2008 and labor market indicators

Item	Average competitiveness index during the years 2003–2008	Average unemployment rate during the years 2003–2008 [%]	Average employment index during the years 2003–2008 [%]
Lower-Silesian	0.318	17.2	48.8
Silesian	0.349	13.0	50.6
Mazowieckie	0.354	11.8	64.4
Average unemployment rate in the entire group during the years 2003–2008 [%]		14.0	
Average employment index in the entire group during the years 2003–2008 [%]		54.6	

* – In the table it was assumed that the competitiveness level is higher when the taxonomic competitiveness indicators are lower. The voivodships with the lowest level of the competitiveness index are the voivodships in which the competitiveness index is lower than the average competitiveness index in the entire group of voivodships decreased by the standard deviation.

Source: Bank of regional data, www.stat.gov.pl.

– see: Table 2). Also the employment rate was higher in the most competitive voivodships (54.6%) than in the least competitive voivodships (53.1%). Those indicators confirm the hypothesis concerning the positive influence of competitiveness of the economy on the labor market situation.

Table 2 contains the list of voivodships representing the lowest level of economic competitiveness. That group includes Podkarpackie, Świętokrzyskie and Podlaskie voivodships that is the voivodships situated in the eastern and central part of the country. It is worth drawing attention to the large distance in the competitiveness index value between the strongest and the weakest voivodships (in the strongest voivodships the index value is ca. twice lower than in the weakest voivodships). Closing that gap requires incurring numerous costs and implementation of long-term projects in infrastructure as well as human capital and entrepreneurship development. It is worth recording that the average labor market indicators in the least competitive voivodships were less unfavorable than in the group of the most competitive voivodships although that regularity is not of universal nature as, e.g. the unemployment rate in Podlaskie voivodship was much lower than in the Lower Silesian voivodship while the employment ratio in Świętokrzyskie voivodship was much higher than the corresponding indicator in Lower Silesian or Silesian voivodship. This indicates that the correlations between economy competitiveness and the labor market situation are not so simple.

Let us now have a look at the changes in competitiveness levels of voivodships during the years 2003–2008. Tables 3 and 4 present the lists of voivodships in which the largest decrease of competitiveness (Tab. 3) and the largest increase of competitiveness occurred during the covered period

Table 2

Voivodships representing the lowest level of competitiveness during the years* 2003–2008 and labor market indicators

Item	Average competitiveness index during the years 2003–2008	Average unemployment rate during the years 2003–2008 [%]	Average employment index during the years 2003–2008 [%]
Podkarpackie	0.623	16.3	50.2
Świętokrzyskie	0.608	17.8	55.4
Podlaskie	0.604	13.3	53.8
Average unemployment rate in the entire group during the years 2003–2008 [%]		15.8	
Average employment index in the entire group during the years 2003–2008 [%]		53.1	

* – The lowest level of competitiveness occurs when the taxonomic competitiveness indicators are the highest. The voivodships with the highest level of the competitiveness index are the voivodships in which the competitiveness index is higher than the average competitiveness index in the entire group of voivodships increased by the standard deviation.

Source: as in table 1, own computations.

Table 3

Voivodships with the largest decrease of competitiveness* during the years 2003–2008

Voivodship	Competitiveness index in 2008 (2003 = 100)	Unemployment rate in 2008 (2003 = 100)	Employment rate in 2008 (2003 = 100)
Świętokrzyskie	102.5	76.1	101.9
Lower Silesian	102.7	44.6	104.2
Opolskie	103.1	51.0	102.9
Average dynamics of the unemployment rate in the entire group in 2008 (2003 = 100)	57.2		
Average dynamics of the employment rate in the entire group in 2008 (2003 = 100)	103.0		

* – The competitive decrease is the highest when the dynamics of increase of the competitive index is the highest. The voivodships with the highest levels of the competitiveness indicators dynamics are the voivodships in which the dynamics of competitiveness is higher than the average level of the competitiveness index dynamics in the entire group of voivodships increased by the standard deviation.

Source: as in table 1, own computations.

Table 4

Voivodships with the largest increase of competitiveness* during the years 2003–2008

Voivodship	Competitiveness index in 2008 (2003 = 100)	Unemployment rate in 2008 (2003 = 100)	Employment rate in 2008 (2003 = 100)
Wielkopolskie	86.0	40.5	103.6
Pomeranian	89.6	39.4	102.9
Average dynamics of the unemployment rate in the entire group in 2008 (2003 = 100)	39.95		
Average dynamics of the employment rate in the entire group in 2008 (2003 = 100)	103.3		

* – The competitiveness increase is the highest when the dynamics of the competitiveness index is the lowest. The voivodships with the lowest level of competitiveness indicators dynamics are the voivodships in which the dynamics of the competitiveness index is lower than the average competitiveness index dynamics level during a given year decreased by the standard deviation.

Source: as in table 1, own computations.

(Tab. 4). The group of voivodships with the largest decrease of competitiveness consisted of Świętokrzyskie, Lower Silesian and Opolskie voivodships. It is remarkable that Świętokrzyskie voivodship is among the voivodships with the

lowest level of competitiveness while Lower Silesian voivodship is among those with the highest level of competitiveness. On the other hand, the largest competitiveness increase during the years 2003–2008 occurred in Wielkopolskie and Pomeranian voivodships that belong to the group of voivodships with the medium level of competitiveness.

The data in Tables 3 and 4 indicate occurrence of certain regularities in the influence of the change in competitiveness on the labor market indicators. In the voivodships where the level of competitiveness increased the labor market indicators changed more favorably than in the voivodships where competitiveness decreased the most. During the period covered, in the voivodship with increasing competitiveness the unemployment rate decreased by over 60% while in the voivodships with decreasing competitiveness by 42.8% only. Less evident differences were recorded as concerns the employment ratio. In the voivodships with the most pronounced decrease in competitiveness the employment ratio increased during the period covered by 3% while in the voivodships with the largest increase in competitiveness the employment ratio increased by 3.3%, that is by not much more. The differences between both groups of voivodships are small as concerns employment ratios but it is worth remembering that they do not take into account the time lag between the variables investigated.

Statistical-econometric analyses

Let us now move to the influence of competitiveness on the situation in the voivodship labor markets. Figure 3 presents the correlation between the average unemployment rate in all the voivodships during the years 2003–2008 and the average level of the competitiveness index for those voivodships during the same period. Figure 3 indicates the existence of positive correlation between those two variables, which is consistent with the theory of economy. The higher the value of the competitiveness index (i.e. the lower the level of competitiveness) the higher the unemployment rate in the voivodship labor markets was. It should be highlighted, however, that the correlation between those variables was relatively weak as the correlation coefficient was 0.23.

Figure 4 presents the correlation between the average employment ratio s in all voivodships during the years 2003–2008 and the average level of the competitiveness index for those voivodships during the same period. Figure 4 indicates that during the analyzed period the correlation between the analyzed variables was positive, which is inconsistent with the theory of economy. The power of the correlation between those variables was low (the correlation coefficient was only 0.0007). As a consequence of the above

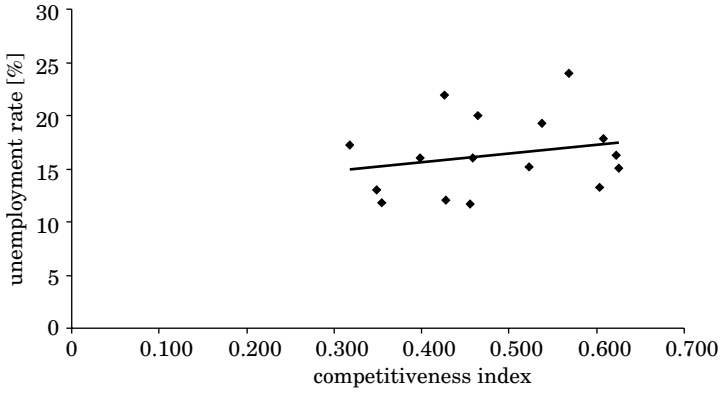

Fig. 3. Correlation between the average unemployment rate in the individual voivodships during the years 2003-2008 and the average competitiveness index in those voivodships during the years 2003–2008

Source: as in table 1, own computations.

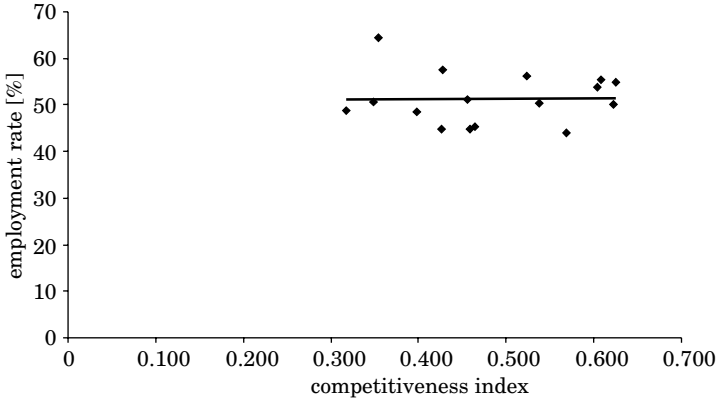

Fig. 4. Correlation between the average employment rate in the individual voivodships during the years 2003–2008 and the average competitiveness index in those voivodships during the years 2003–2008

Source: as in table 1, own computations.

reservation, in our analyses of the influence of the competitiveness level on the situation in the voivodship labor markets, we will use the unemployment rate (during the years 2003–2007), which we will treat as the endogenous variable.

The competitiveness index computed for all the voivodships for the years 2003–2007 and the GDP dynamics at fixed prices for the years 2002–2007 are assumed as the variables describing the development of unemployment rates at the voivodship labor markets. This can be described applying equations 3–4.

$$u_{it} = k_{it\text{-}n} + y_{it} + \zeta_{it} \tag{3}$$

$$u_{it} = k_{it\text{-}n} + y_{it\text{-}1} + \zeta_{it} \tag{4}$$

where:
u_{it} – unemployment rate in voivodship i during the period t,
y_{it} – GDP dynamics in fixed prices of 2002 in voivodship i during the period t,
$y_{it\text{-}1}$ – GDP dynamics in fixed prices of 2002 in voivodship i during the period t-1,
$k_{it\text{-}n}$ – taxonomic competitiveness indicator in voivodship i during the period t-n,
ζ_{it} – random component.

Equation 3 describes the correlation between the GDP dynamics during a given period and the level of the taxonomic competitiveness indicator during the period t-n and the unemployment rate levels in individual voivodships. Equation 4, on the other hand, presents the correlation between the level of the taxonomic competitiveness indicator during the period t-n and the GDP dynamics during the period t-1 and the unemployment rate levels in individual voivodships. In both equations all values except the random component are algorithmized.

Both equations were subjected to two-leveled estimation by the least squares method[1]. In both equations the delay of the taxonomic competitiveness indicator lag by the period of from 1 year up top 4 years (i.e. that $n = 1,... 4$) was considered.

In econometric analyses we use year data. Equations (3), (4) form the base for econometric analyses. The results of estimations of equations (3), (4) based on the two-leveled least squares method for voivodships are described by equations (5a)-(6e).

In all the estimated equations correct symbols of the estimated parameters standing by the endogenous variables were obtained. All the estimated parameters were statistically significant at the significance level of 0.05 in equations: (5a), (6a), (6), (6c) and (6e).

The highest level of explanation (38.19%) was obtained in the equation (6c). As indicated by that equation the increase of the competitiveness index (that is deterioration of the competitiveness level) in voivodship i during the period t-3 by, e.g. 1%, causes the unemployment rate increase in the voivodship during the current period by ca. 0.5%. As indicated by the above equation the GDP dynamics has a much stronger influence on the level of unemployment rates at the level of voivodships in a short-term perspective.

[1] More information on two-leveled least squares method can be found in: Maddala G. S. 2008, p. 399 and p. 412.

The lowest explanation level was obtained in equations (5a). Equation (5a) indicates that the increase of the taxonomic competitiveness indicator during the period t-1 in voivodship i by, e.g. 1% (with other factors unchanged) causes the unemployment rate increase by ca. 0.35%. The low significance level, however, means that the endogenous variables in this equation contribute little (ca. 16.7%) to explaining the development of unemployment rates in the voivodship labor markets.

$$u_{it} = 22.824 + 0.347k_{it\text{-}1} - 4.248y_{it} \quad (5a)$$
$$(3.39) \quad (2.14) \quad (-2.95)$$
$$\text{Adj. } R^2 = 0.1666 \quad \text{n.o.} = 64$$

$$u_{it} = 31.031 + 0.311k_{it\text{-}2} - 6.033y_{it} \quad (5b)$$
$$(4.36) \quad (1.87) \quad (-3.95)$$
$$\text{Adj. } R^2 = 0.3068 \quad \text{n.o.} = 48$$

$$u_{it} = 21.605 + 0.398k_{it\text{-}3} - 4.006y_{it} \quad (5c)$$
$$(1.53) \quad (1.91) \quad (-1.32)$$
$$\text{Adj. } R^2 = 0.1721 \quad \text{n.o.} = 32$$

$$u_{it} = 10.285 + 0.507k_{it\text{-}4} - 1.591y_{it} \quad (5d)$$
$$(0.41) \quad (1.83) \quad (-0.30)$$
$$\text{Adj. } R^2 = 0.2101 \quad \text{n.o.} = 16$$

$$u_{it} = 27.206 + 0.448k_{it\text{-}1} - 5.197y_{it\text{-}1} \quad (6a)$$
$$(3.86) \quad (2.69) \quad (-3.43)$$
$$\text{Adj. } R^2 = 0.1893 \quad \text{n.o.} = 80$$

$$u_{it} = 24.084 + 0.51k_{it\text{-}2} - 4.529y_{it\text{-}1} \quad (6b)$$
$$(3.22) \quad (2.83) \quad (-2.83)$$
$$\text{Adj. } R^2 = 0.1937 \quad \text{n.o.} = 64$$

$$u_{it} = 32.548 + 0.498k_{it\text{-}3} - 6.372y_{it\text{-}1} \quad (6c)$$
$$(4.58) \quad (3.01) \quad (-4.17)$$
$$\text{Adj. } R^2 = 0.3819 \quad \text{n.o.} = 48$$

$$u_{it} = 16.765 + 0.611k_{it\text{-}4} - 2.981y_{it\text{-}1} \quad (6d)$$
$$(1.24) \quad (3.08) \quad (-1.03)$$
$$\text{Adj. } R^2 = 0.2822 \quad \text{n.o.} = 32$$

$$u_{it} = 2.87 + 0.634k_{it\text{-}4} \quad (6e)$$
$$(18.79) \quad (3.21)$$
$$\text{Adj. } R^2 = 0.2559 \quad \text{n.o.} = 32$$

As indicated by the estimated equations, the strongest influence of changes in the level of competitiveness on the situation in the voivodship labor markets (measured by the unemployment rate level) was obtained with the competitiveness index lag of 4 periods (years) equations 6d–6e). In equation (6e) as a consequence of the fact that the GDP dynamics lagging by one year proved statistically insignificant only the competitiveness index lagging by 4 periods was considered. Those equations indicate that with the other values unchanged the increase of the competitiveness index value (i.e. deterioration of the competitiveness level) in voivodship i during the period t-4 by, e.g. 1% causes the unemployment rate increase in that voivodship by ca. 0.6%.

Conclusions

The following conclusions come out from the presented considerations.

The change in the competitiveness level influences the situation in the labor market. Over the short-term the improvement of competitiveness leads to an increase in labor productivity and a decrease of demand for labor, that is a decrease of employment and increase of unemployment. On the other hand, over a long-term the increase of competitiveness causes improvement in the labor market.

During the analyzed period the level of competitiveness had positive influence on the situation in the voivodship labor markets. Voivodships with the highest level of competitiveness (i.e. Lower Silesian, Silesian and Mazowieckie voivodships) were characterized by the lower average unemployment rate level and higher average employment rate level than the voivodships with the lowest level of competitiveness (that group consisted of Podkarpackie, Świętokrzyskie and Podlaskie voivodships).

In the voivodships where the competitiveness level increased the most during the covered period, the situation in the labor market (measured by the level of the unemployment rate and the employment rate) improved more than in the voivodships where the level of competitiveness decreased the most.

Econometric analyses indicate that the level of competitiveness had a significant influence on the level of the unemployment rate in the labor markets of voivodships. Improvement of competitiveness during the proceeding periods leads to a decrease in the unemployment rate. The strongest influence on the unemployment rate level in voivodship labor markets was that of competitiveness improvement in a longer time perspective.

The conducted considerations indicate that the level of competitiveness influences the situation in the voivodship labor markets. Authorities of voivodships with the lowest level of competitiveness should aim at improving it through the increase of the employed with the tertiary education, decrease of

the employed in agriculture, decrease of the share of the long-term unemployed, increase of the share of people employed in market services, increase of the shares of employees in the R&D sector, improvement of road infrastructure, increase of investment outlays, increase in the number of entities registered with the REGON database and increase in the number of entities with involvement of foreign capital.

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SOCIAL AUDITING – A TOOL FOR THE SOCIAL ECONOMY IN SPAIN

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K e y w o r d s: social auditing, standardised indicators, microcredits, corporate social responsibility, social balance sheet, social report, social and occupational integration, social exclusion, third sector.

A b s t r a c t

The social economy in Spain is a part of the economy with growing importance in the context of economic crises. Social and occupational integration is a relatively new yet now generalised concept, which is based on partnership between public and private entities which are involved in job creation. New tools, such as social auditing, will help the social economy to reach the goals that the traditional economy does not solve.

AUDYT SPOŁECZNY – NARZĘDZIE EKONOMII SPOŁECZNEJ W HISZPANII

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S ł o w a k l u c z o w e: audyt społeczny, znormalizowane wskaźniki, mikrokredyty, społeczna odpowiedzialność biznesu, bilans społeczny, raport społeczny, integracja społeczna i zawodowa, wykluczenie społeczne, trzeci sektor.

A b s t r a k t

Ekonomia społeczna w Hiszpanii stanowi element ekonomii o wzrastającym znaczeniu w kontekście kryzysu gospodarczego. Integracja społeczna i zawodowa są relatywnie nowymi, jednakże obecnie uogólnionymi pojęciami opartymi na partnerstwie między społeczeństwem a firmami prywatnymi zaangażowanymi w tworzenie miejsc pracy. Nowe narzędzia, jak audyt społeczny, pomogą ekonomii społecznej w osiągnięciu celów, których tradycyjna ekonomia nie rozpatruje.

What is the social economy?

The social economy, third sector or third system are all terms used to designate an emerging business sector in modern societies led by civil society and designed to serve the general interest of the communities in which it is being developed.

The economic aspect of social and solidarity economy companies refers to the production of goods and services and hence helps to improve the quality of life and wellbeing of the public at large, in particular by offering a larger number of services.

Social return is evaluated by means of its contribution to democratic development, support for active citizenship and promotion of the values and initiatives of individual and collective responsibility. Social return therefore helps to improve the quality of life and wellbeing of the public at large, in particular by offering a larger number of services.

The specific forms of economic organisation which make up the social and solidarity economy are legally diverse (cooperatives, worker-owned companies, associations, mutual societies and foundations) but their characteristic traits are:

– They are initiatives drawn up by a group of people
– The fact that political power inside the company is not based on capital ownership.
– The pre-eminence of people over money.
– Self-management and the principle of participation.
– Limited or zero profit distribution.
– Environmentally-friendly production processes.

These features place them between the public sector and the market, hence the term third sector or third system as they are the third way of using resources. By laying down the primacy of solidarity and reciprocity in management they differentiate themselves from both the public sector and the logic of the market.

The solidarity economy is changing and it is now a significant factor in job creation, sustainable and responsible development and in identifying and meeting new social requirements by transforming employment needs and ensuring an enhanced use of, and social return on, public and private resources. In short, it is a crucial sector in the struggle against the social exclusion and marginalisation which world economic globalisation is generating in our societies.

The social and solidarity economy is growing strongly worldwide in both developed countries like the United States and Canada, and especially in

Quebec, and also in developing countries, in particular in South America, Africa and Asia. This growth is leading to setting up of international social and solidarity economy networks.

Tools of the social economy in Spain

Social integration enterprises (SIEs)

Establishing the presence of social integration enterprises (SIEs) in the market economy is a contemporary challenge in response to an emerging reality which has to be tackled. Traditionally these solidarity instruments have received a cool welcome in business circles, and a lack of visualisation and knowledge about them has hitherto kept them out of the economic sector and confined to the welfare sector.

In the new economic situation threatened by recession, the presence of groups needed by the labour market but coming from vulnerable sectors (the homeless, immigrants, drug addicts, prisoners, women with family responsibilities, the long-term unemployed etc.) and the search for new sources of jobs mean that social integration enterprises are now being seen as a valid business form which not only creates wealth and employment but also relieves social security burdens by enabling people previously living off welfare and benefits to get jobs.

Social integration enterprises are learning structures, designed to produce goods or provide services, which adopt a legal status and whose primary purpose is to enable socially disadvantaged or excluded groups to enter the labour market.

The basic features of these enterprises are as follows:

– Their business activity must be lawful and involve producing goods or providing services in any market sector, though they are mainly involved in welfare and environmental work.
  – The people who can benefit from them include:
  – The homeless
  – Immigrants and refugees
  – Drug addicts and former drug addicts
  – Prisoners and former prisoners
  – Ethnic minorities
  – Women with family responsibilities
  – The long-term unemployed
  – Young people with no qualifications

Of course this list merely gives examples and can be added to.

Aside from these material and subjective issues, it is the specific laws of each country which lay down the formal requirements these companies need to meet to become labour market players.

However, it should be stressed that the ultimate purpose of a social integration enterprise is the social and occupational integration of the people who have come to it.

A social integration enterprise is a learning structure that is limited by law in which integration is generated via the labour market.

The learning process takes place through effective employment as it is based on the idea that you should not wait until the person is integrated to find them a job but rather that we can achieve our goals by means of employment.

Ensuring that these groups receive training through employment means that the integration process will be less costly for the public purse, as each person thus employed works and earns a salary and is not dependent on welfare benefits.

Once we have this non-welfare framework in place, we then need to think about their viability, which leads on to the debate about whether or not public sector stimulation and the support of the private sector are called for. If we take a closer look at the concept of social integration enterprises, we will find that there are basically two types of them:

First of all, there are the transition or bridge organisations between marginalisation and normalised work. How long the majority of workers stay at these transition SIEs (social integration enterprises) has to be limited while at the same time retaining a reduced interdisciplinary core which generates stability and continuity.

Secondly, there are the end-SIEs or solidarity companies where the goal is to get all workers to stay there for the long-term and intermingle normalised ones with those who are at risk of exclusion so that the differences between the two groups gradually disappear. Meanwhile, other people at risk of exclusion can also join the company as long as business growth makes this possible.

According to a study carried out ten years ago when the first SIEs made their appearance in Spain, 36% of them were foundations and associations, 18% were associated work cooperatives, 15% were limited companies, and 28% operated in the black economy.

In the light of this legal backdrop, some authors argue that restricting the SIEs to particular business forms, whether these be cooperative or not, is a strategic mistake as this reinforces their marginal image and hence their welfare focus and discourages efficient management. In fact, it is to fall once more into the historical mistake which has always accompanied the cooperatives, which should not see themselves as anything other than a company model which includes certain particular features based on democratic management by their partners.

In this respect there is no reason why an SIE should be a cooperative, a worker-owned company, a limited company, an association or a foundation. Instead the particular circumstances of each case should indicate the most appropriate legal form. Thus for instance an engineering consultancy, an industrial plant or a transport firm do not of necessity have to adopt certain company forms, but instead many considerations should be taken into account when making this decision (required capital, number and features of partners, assumable risk, tax benefits, etc.). Thus why is it that there are some people who are so anxious to find a specific legal model for the very heterogeneous set of SIEs? Each person at risk of exclusion costs the public treasury in Spain € 15,000 per year. Their reintegrating with the labour market would allow not only saving on these social expenditures but also generating a salary and social security payments.

Social integration enterprises in Europe

The European Union subscribes to the school of thought that holds that there is an indissoluble bond between economic and social dimensions. This is a new approach which has been gaining ground in recent years and is based on a global and multidisciplinary conception of the problems. Poverty and social exclusion are dynamic phenomena which call for general policies, so that new social polices need to be seen as an essential condition for economic development. This is the meaning of the "EC Council Recommendation of 27 July 1992 on the convergence of social protection objectives and policies".

Against this backdrop, the European Commission has been drawing up experimental regional and local strategies and implementing pilot schemes to ramp up job creation in the services sector.

Pulling in the same direction are the directives brought in by the Commission on Structural Funds and their coordination in the Cohesion Fund, published in the European Communities Official Gazette on 22 September 1999. In this respect the Group of Experts on the Third System and Employment set up by the European Commission's DG V has stressed the contribution made by the Third System to job creation and the struggle against exclusion. In fact, the Group of Experts recognises that social integration and job creation is the main purpose of many of the organisations included within this concept and one which they seek to fulfil by delivering a range of social services.

However, this is not exclusively an EU phenomenon. Quite the reverse; it has been European society which has seen the problems and driven initiatives which mobilise numerous agents. These problems include the environment,

the marginalisation, poverty and exclusion of various groups, the financing of the companies and fair trade with the Third World. The traditional response has always been provided by setting up civil organisations that specialise in the problems referred to above.

Over recent years the agents involved in these tasks have used business activity as an important tool to achieve consistency between fair trade networks, the environmental sector and alternative financing and banking and social integration enterprise projects.

A specific definition of the new forms of the solidarity economy is given by French sociologists Defourny, Favreau and Lavilla when they refer to associative or cooperative initiatives which belong to neither the classic private company nor the public economy spheres as the Third Sector, a concept which defines these initiatives globally. In the United States they are referred to as non-profit organizations (NPOs) or the independent sector, while in the UK they generally go under the name of voluntary organizations. Finally, French-speaking countries have adopted the concept of the social and solidarity economy which encompasses both associations and also cooperatives and friendly societies.

Social integration enterprises in Spain

In Spain, according to a CIRIEC study (1999), in 1998 there were 423,703 jobs in cooperatives, worker-owned companies and social welfare friendly societies. In addition, in 1995 there were 473,750 full-time paid posts in foundations and associations. According to these figures, more than 50% of jobs in the Spanish social and solidarity economy have been created in recent years by non-profit organisations.

We also have to add, the social integration enterprise legislation which has been brought in by Spain's regional governments (including Catalonia, the Basque Country, Navarra, Aragon, and the Balearic Islands) and somewhat later on by its central government (Act 44/2007 dated 13 December which we shall look at later on). This legislation sets out the formal requirements these companies must meet in order to operate in the labour market.

Nonetheless, it should be noted that the ultimate goal of a social integration enterprise is none other than the social and occupational integration of the people who have joined it. This is because it is a learning structure limited by law in which integration is delivered through employment. The learning process takes place through effective employment as it is based on the idea that you should not wait until the person is integrated to find them a job but rather that we can achieve our goals by means of employment.

Ensuring that these groups receive training through employment means that the integration process will be less costly for the public purse, as each person thus employed works and earns a salary and is not dependent on welfare benefits.

A critical view of the regulation of social integration enterprises

Social integration enterprises are nothing new in Europe; the first ones started up in France and Italy in the 1980s and in Spain began to grow especially after the implementation of minimum wage policies for occupational integration. In lockstep there were a series of changes on the Europe stage driven by the European Union via the European Occupation Strategy which took shape in Spain in the country's National Occupation Plan in 2001 and National Social Inclusion Plan 2001–2003, in which social integration enterprises were referred to for the first time.

It was not, however, until 2007 that the central government, based on experience at the regional level, brought in Act 44/2007, dated 13 December, designed to regulate the system of social integration enterprises at the national level. The Act, which had been eagerly awaited, has received the blessing of trade unions, businesspeople and social organisations alike and has filled many of the gaps created by a lack of sector regulation. Nonetheless, fresh problems have come up especially in terms of dealing with the transition stage created by the Act.

One of the main problems which need to be solved is the machinery in an Act which takes in aspects of the employment agreements people at these enterprises must have, and which are thus exclusively reserved for the central government and welfare issues which are part of the social powers transferred to the regions. Hence there is a need to try to match up issues in order to avoid difficulties in the division of powers.

Another problem that has to be tackled is the legal form which the new Act imposes on the SIEs with a deadline for becoming companies or cooperatives. In the light of this legal requirement, some authors argue that restricting the SIEs to particular business forms, whether these be cooperative or not, is a strategic mistake as this reinforces their marginal image and hence their welfare focus and discourages efficient management. In fact, it is to fall once more into the historical mistake which has always accompanied the cooperatives, which should not see themselves as anything other than a company model which includes certain particular features based on democratic management by their partners.

In this respect there is no reason why an SIE should be a cooperative, a worker-owned company, a limited company, an association or a foundation. Instead the particular circumstances of each case should indicate the most appropriate legal form. Thus for instance an engineering consultancy, an industrial plant or a transport firm do not of necessity have to adopt certain company forms, but instead many considerations should be taken into account when making this decision (required capital, number and features of partners, assumable risk, tax benefits, etc.). Thus why is it that there are some people who are so anxious to find a specific legal model for the very heterogeneous set of SIEs?

Aside from these problems that extant SIEs have to deal with and try to solve within their framework for action, the new Act sets out a series of guidelines which seek to create confidence in all the interlocutors involved. Especially significant ones are as follows:

a) The setting up of a closed list of beneficiaries, even though those specified in the Act "... groups from alternative accommodation centres and from prevention and social integration services authorised by the Regional Governments and the cities of Ceuta and Melilla" leave open the option that Regional welfare services could be considered eligible (homeless, immigrants, women who are victims of gender-based violence, etc.) despite not being expressly on the list.
b) The setting up of a national and regional Social Integration Enterprises Administrative Register regulating recording acts, classification and documentation subject to proof of registration. This Register will have a dual purpose: for the Ministry of Employment it is a Social Integration Enterprises Administrative Register solely for coordinating and exchanging information, while for the Regional Government where the enterprise is based it provides the classification of social integration enterprise after registration with a company form in the Companies Register or the Cooperative Companies Register.
c) The requirements an SIE needs to meet to be classified as such are:
   – "to be promoted and owned by one or more promoter organisations as referred to in the following article. This ownership shall be at least fifty-one percent of equity in the case of business corporations
   – to be registered in the Register for its legal form and in the Social Integration Enterprises Administrative Register in its Region
   – to maintain in its annual calculation from the moment of classification, a percentage of workers in an integration process, regardless of the type of hiring, of at least thirty percent during its first three years of operations and of at least fifty percent of total employees from the fourth year onwards, and the number thereof may not be less than two

- not to carry out economic activities other than those included in its corporate purpose
- to set aside at least eighty percent of profits or surplus obtained in each financial year to improving or expanding its production and integration structures
- to file a social balance sheet each year for the company's activities which includes an economic and social report, the degree of integration in the ordinary labour market and the composition of its workforce, information about integration tasks done and forecasts for the following financial year
- to have the necessary resources required to meet its commitments derived from social and occupational integration pathways";

d) As for the duties of social integration enterprises once registered, they have to file a series of documents with the Administrative Register in their Region including the following: documents in proof of by-law changes which affect their classification once registered in the Register for their legal form; their business activities plan and budget for each year prior to its start; and their annual accounts, management report and social balance sheet at the end of each financial year, without prejudice to their obligation to file their accounts and management report with the Register for their legal form. They will also have to provide any documents required by their Regional government for social integration enterprises.

To end this brief tour of the regulations contained in Act 44/2007, it states that the legal grounds for disqualification as a social integration enterprise are:

- Not fulfilling the purpose of a social integration enterprise.
- Not meeting the requirements for classification as such.

The disqualification ruling will be given by the Social Integration Enterprises Register in the Region where classification was awarded after a mandatory prior report by the Employment Inspection and Social Security service.

Mention should also be made of the social nature of the SIEs which leads on to the role played by public social services and public employment services in the integration of at-risk groups. These public agencies carry out tasks prior to workers joining social integration enterprises and then monitor and provide support once these workers have completed their time in the SEI. They are extremely important in the occupational integration of people at risk as they seek to foster the integration of people into the ordinary labour market.

Act 44/2007 states that both types of public agency should set out the rules for social and occupational integration pathways in accordance with the social integration enterprises, and these pathways need to be accepted by the person at risk of social exclusion who is hired. The Act sets out intervention and mentoring measures and defines them as a set of services, benefits, guidance,

mentoring and personalised and assisted paid work processes, on-the-job training and occupational and social habituation which are geared towards solving specific problems arising from the situation of exclusion which hinder the normal development of a person's pathway in the social integration enterprise.

Social auditing: a tool for the social economy in Spain

Against this backdrop **social auditing** is a strategy which enables organisations to evaluate, measure and control social management, taken to be the application of policies and practices connected with people both inside and outside the organisation, so as to achieve progressive improvement.

There is a tool for social auditing called the **social balance sheet** which makes it possible to use specific methodology to quantitatively and qualitatively measure the social management of any organisation (whether it be public, private, a manufacturer or services provider, big or small) as part of corporate social responsibility.

To these two concepts should be added the **social report** which gives a detailed account of all the activities carried out by an organisation in a specific period (a year).

These instruments provide us with the basic elements needed to draw up a methodology which enables us to implement social auditing as a tool within the framework of the social and solidarity economy.

Drawing up a solidarity and social auditing model

It has been said before that organisations exist to the extent that they generate dynamics and interaction on the inside with their personnel and on the outside with their stakeholders. It is for this reason that we need to use two separate sets of internal and external management measurement variables to create this model, which is designed to evaluate and measure in order to improve the entire management of the organisation. The variables will be of two types: internal variables and external variables.

The principal internal variables will be:

a) Social and occupational characteristics of employees
b) Social services which the organisation delivers to its employees
c) Employee integration and development

The principal external variables will be:

a) Primary relations

b) Relations with the community

c) Relations with other institutions

Let's analyse the principal elements, determining factors and standardised indicators that have to take into account in the social auditing:

Elements	Determining factors	Standardised indicators
1	2	3
Employment		
Recruitment	Personnel recruitment policy. Recruitment and quality measures based on posts.	No. of jobs for which specific tests are used as a % of the total.
Personnel qualifications	Requirement for a qualification for each of the jobs (unqualified personnel, vocational training I and II, qualified technicians)	% of each type of qualification.
Age	Generational change. Technological adaptation.	Age pyramid. Average age of personnel. Average seniority.
Hiring	Temporary contract. Subcontracting.	% of temporary contracts to indefinite contracts (not occasional or seasonal). Production jobs that are subcontracted as % of total production jobs. Same for maintenance.
Mobility	Policy for renewing temporary contracts. Voluntary redundancy. Compulsory redundancy (technological developments, economic crisis, disciplinary reasons, etc.)	% renewal temporary contracts % change of temporary contracts into indefinite ones. Voluntary redundancy as % of total. Same for compulsory redundancy.
Company presence in market	Market position of products or services. Personnel's future expectations. Technological development. Diversification of products, suppliers and customers.	Degree of customer diversification. Degree of supplier diversification. Degree of product diversification. Product market share.
Company presence in the community	Personnel's prestige expectations. Impact of the company on local, county, etc. economies.	Production as percentage of total local, county, etc. in the sector.
Remuneration		
Average salary	Company salary levels	Total payroll/Total personnel
Remuneration structure and distribution	Salary policy. Size of salary range. Unequal division between hierarchy levels. Sex discrimination.	Difference between maximum and minimum salaries in each salary group. Concentration index (Gini index). Average salary women/average salary men (by hierarchy levels)

1	2	3
Remuneration systems	Salary distribution. Performance-based pay.	Fixed salary as % of total (by hierarchy levels). Performance- based pay as % of fixed salary.
Payment in kind	Non-monetary compensation policy. Resources supplied which are direct cost savings for the employee (house, car, etc.)	% personnel receiving payment in kind. Payment in kind as % of monetary salary (by hierarchy levels).
Company net profit Reinvested profit Provision for reserves	Company profitability Reinvestment development Self-financing	Net profit/capital Reinvested profit as % total Provision for reserves/capital
Profit sharing for personnel	Profit sharing for personnel. Payment of profits.	% personnel affected by profit sharing. Profits shared with workers as % of total profit.
Productivity	Unit output.	Turnover/total personnel. Units produced by time. Unit costs.
Occupational Health and Safety		
Absenteeism Accidents at work	Absence from job. Frequency of accidents with and without sick leave. Seriousness index. Professional illnesses. Frequency of incidents that may cause personal injury or material losses.	Days lost as % of total days. Number of accidents per million hours worked (with and without sick leave). Days lost per thousand hours worked. Average length of accidents. Number of incidents per million hours worked.
Occupational health budget	Funding for promoting occupational health.	% budget.
Investment in preventive measures	Improvement in all determining factors for health and safety at work.	Investment in preventive measures as % of total investment.
Time and personnel assigned	Personnel working in occupational health in the company	No. of people working in occupational health. Hours spent on occupational health as % of total hours (including training).
Medical check-ups	Checking the health of personnel.	Specific medical check-ups as % of total personnel.
Life expectancy	Length of life.	Average age of deceased (including retired).
Administrative fines Hygiene	Breach of regulations. Ambient comfort. Physical, chemical and biological contaminants. Personnel exposed. Measurements taken.	Cost of the fines. Results of evaluations. % personnel exposed to different levels. Result of risk inventory.

1	2	3
Work hours per week Rest periods	 Between days. Weekly.	Average hours per person. No. of hours between working days. Days off per week.
Paid holidays (including leave) Shift work	Holiday period. Flexibility of holiday period. Type of shift. Frequency of alternation. Rotation rate. Shift start and end times.	Days per year per person. Number of days per shift. % personnel involved.
Flexitime Overtime		% personnel affected Overtime as % of total hours worked (voluntary and compulsory)
Work alternation	Rotations. Shared tasks. Change in compulsory task as needed.	% personnel affected by rotations. % personnel affected by shared tasks. % personnel affected by change in compulsory task as needed.
Basic preventive actions	Regular risk and deficiency inspections. Accident investigation. Risk inventory.	Duly controlled risks as % of total identified.
Work Organisation		
Management system	Hierarchical structure. Vertical relations. Systems in place to foster participation and involvement in the process.	Extant hierarchical levels.
Independence	Employees' level of decision making. Time independence.	% personal who work on production lines. % personnel who work in groups with self-organisation capacity (even if only in part).
Self-control	Control functions for production results	Supervisors as % of personnel.
Work method	Choice of appropriate methods. Task planning. Establishing work procedures in writing. Quality control of production process. Group decision making.	Quality indicators for production processes. Number of written work rules. % non-management workers who take part in regular work meetings.
Participation	Setting up of representational bodies. Degree of worker participation in company management. Channelling opinions and queries to workers. Workers as capitalists or shareholders.	% board members representing personnel. % workers in semi-independent groups. % workers in quality circles. Suggestions implemented as % of those received. Capital owned by workers as % of total.

1	2	3
		Non-management worker shareholders as % of total.
Information and communication	Vertical and horizontal information systems in the company about production and financial management, personnel policy, working conditions, etc.	
Trade union membership Labour disputes (strikes, disciplinary action, etc.)		% personnel in a trade union % days lost due to disputes.
Development of Human Resources		
Work content	Creativity Product utility Identification with products. Satisfaction	
Promotion	Personnel promotion policy and systems. Seniority. Training. Recycling. Continuous learning.	% personnel promoted by seniority (financial and other promotion systems). % personnel affected by promotion at work without being associated with a management level. % personnel promoted in general.
Training	Education, training plans, budget, etc.	% workers illiterate Same basic education Same vocational training I and II Same baccalaureate Same higher education % workers receiving initial formal education in the company % hours set aside by company for training both inside and outside it.
Environment		
Respect for nature	Rational use of water. Integration in landscape. Waste recovery. Landscaped areas, etc.	% budget for landscaped areas.
External pollution	Environmental protection policy. Degree of external pollution in the air, water, waste, noise, etc.	Results of environmental evaluations.
Social Action Programme		
Health care	Own or shared medical service. Provision of primary care services.	% budget.
Temporary disability financial coverage		% salary received by worker in case of temporary disability
Retirement plans		% budget. % personnel covered.

1	2	3
Advances and loans		% budget. % personnel benefiting.
Other social benefits	Holiday club, canteens, company store, transport services, etc.	% budget. % worker users.
Sports and cultural activities	Leisure areas, sports championships, exhibitions, competitions, etc.	% budget. % participation.

Source: Parra C. & Ruiz C. Working paper, Cátedra de Economía Solidaria, 2009.

Microcredits as a tool of the social economy

Microcredits foster to reach an increase of production as well as job creation and foster personal and family development. All these goals are linked to reach local development.

The use of microcredits as a tool of the social economy functions in the way they provide products and services adapted to needs. The products they offer are:

a) Asset products
   – Self-employment and micro-enterprise loans
   – Family assistance
   – Guarantees and commitments of guarantee
b) Liability products
   – basic Microbank savings account
   – basic Microbank current account
   – Microbank current account
c) Services
   – Credit card

We have to underline the social microcredits. These are small and medium-sized loans geared towards financing self-employment projects by people who are excluded from normal financial options. These loans do not require any guarantee or other type of security.

The social microcredits are based on sound social organisations which guarantee the viability of the loans. In order to be given, they have to identify a need, as well as identify the target market. Then it is identified and analyzed different project features as:

1. The business plan
2. The financing planning
3. The social organisations that give support to the proposal

The duration and the amounts given by the social microcredits differ between the different institutions that give the loans.

Corporate social responsibility in SMEs

There is no doubt that society is changing and other mechanisms need to be evaluated for measuring the competitiveness and efficiency of companies. Up until now purely economic systems of measurement have held sway, mostly based on the evaluation of cost cutting, resource optimisation, improvements in processes and expanding markets. However, these yardsticks have not solved many of contemporary society's problems which are connected with other, non-economic factors. Immigration, the psychological problems of employees and reconciling work and family life are just some of the new concepts which have emerged in our advanced societies and call for a response that goes beyond merely economic factors.

Consequently we need to seek out new tools and instruments which help us to assess and implement the new values and new situation to be found in the economic field.

Moreover, today's consumers not only want a company to give them useful quality products but are also beginning to require these products to be produced in fair conditions by fostering human development and securing job continuity for their employees. Unfortunately as of today the implementation of these ethical and responsible initiatives is restricted to codes of conduct, good governance codes or statements of values, and these are not enough to achieve a genuinely responsible company.

In response to this situation, company policies have taken on board a concept that first saw the light of day in the United States in the 1950s: **corporate social responsibility (CSR)**. It has gradually gained ground in civil society since consumers began choosing companies which put in place policies and economic practice that is ethically correct.

We can thus define CSR as the voluntary inclusion by companies of social and environmental aspects in their operations and in relations with their interlocutors.

Another way of approaching this concept is to define it as the set of domestic and international legal and ethical operations and commitments arising from the impact which the activities of organisations have on social, employment, environmental and human rights issues.

At this stage we need to differentiate between CSR in philanthropic actions and what is known as "cause-related marketing" through which social actions are used to advertise the friendly image of the company. The differentiating factor is the response entailed by business interests and the necessary balance between all stakeholders in the organisation. Here it should be recalled that good management and visualisation of corporate social responsibility is the best marketing that a company can carry out nowadays.

There are a number of instruments which have been developed to aid SMEs with rolling out this social policy. At the international level they include the United Nations Global Compact, the SA 8000 standard from Social Accountability International, the guide to drawing up sustainability reports, and the working group for ISO 26000 which is set to be approved in 2008.

In Europe there is EFQM (European Forum Quality Management) and the Green Paper on corporate social responsibility amongst others.

With these instruments a company can plan, implement and monitor a socially responsible management system for its business activities by setting realistic goals that are feasible given time available and the size of the enterprise. At the same time they enable stakeholders to see whether the company's management system complies with established principles and standards.

The next question is: How can an SME be socially responsible?

In this respect social evaluation criteria need to be adapted to the various factors which influence their delimitation. Thus, for instance, the same items cannot be used to evaluate a multinational and an SME, or a European and an Asian firm, or a traditional firm and a social integration enterprise; in short the company needs to add to its efficient economic organisation a series of parameters which will enable it to implement this activity in line with its social commitment.

Hence the traditional models contained in the Global Compact, SA-8000 standards, the AA-100 standard and the standards laid down by the ILO can be nothing more than pathways to be followed which subsequently have to be adapted to the environment of the company to be evaluated, as otherwise we would run the risk of a globalisation which bears little relationship to reality.

As models to bear in mind, special mention should be made of the European Commission's Green Paper which, with the title "Promoting a European Framework for Corporate Social Responsibility", has laid down European standards for measuring corporate social responsibility indexes.

The Green Paper sets out two sets of factors to be analysed which are:

a) Internal factors: these involve analysis of working conditions in the enterprise. They include human resources management, health and safety at work, management of environmental impact and so on.

b) External factors: these are based on the enterprise's impact on the social community in which it is located. Here evaluation is made of the company's participation in environmental conservation, sponsorship of sports activities, hiring local people, etc.

In order to take these factors into account, a company needs to set up, document, implement and maintain a management system which takes into account each and every one of the recommendations set out in these docu-

ments. It must also provide the resources needed for continuous improvement in its efficiency so that the inclusion of a series of minimum contents in the overview entails added value for the company's policy which should be progressively built into its corporate development.

In spite of theoretical developments in CSR, it has a very short track-record in Spain as there was no awareness of its significance prior to the 1990s. Nonetheless its implementation since then has seen a growing number of public and private bodies and companies put CSR policies in place.

These include the "Code of Governance for Sustainable Companies" drawn up by the IESE and the Entrono Foundation, and the corporate social responsibility standards implemented by Foroetica SGE 21.

It is also important to underline the work carried out by Spanish standards association AENOR which has set up a committee to lay down the guidelines for social auditing in Spain and which has nine sub-committees:

Ethical financial instruments, ethical and social corporate management, cause-related marketing, professional codes, NPO management systems, sustainability, bioethics and values management.

Also significant in this respect is the work being done by the working group which is drawing up the Guide to the PNE 165010 standard which seems set to be approved soon. The Ministry of Employment and Social Affairs is working on the NTP 643 and NTP 644 standards as well which are also designed to evaluate the social impact of companies.

At the company level the proposal from the Ethical Management Evaluation Forum, a non-profit which brings together major Spanish firms to foster CSR culture, is especially significant.

What are the principles that an SME needs to take into account in order to behave in a socially responsible way? Though it is hard to find a catalogue which encompasses the diversity of activities that companies may carry out, a series of common principles can be set out for excellence in corporate social responsibility management. Thus for instance SMEs ought to:

a) Deliver products and services which meet the needs of their customers and contribute to their wellbeing.

b) Go beyond minimum regulatory requirements and thus improve on what is demanded of them.

c) Foster an ethical culture in all decisions made in the company at both management and frontline employee levels.

d) Prioritise relations with employees by ensuring safe and healthy working conditions.

e) Care for and respect the environment.

f) Integrate the company in the community by meeting the latter's needs through social actions and maintaining a balance between company interests and the interests of society.

Another tool which can help SMEs to develop these parameters is **social auditing** seen as a strategy which enables organisations to evaluate, measure and control social management, taken to be the application of policies and practices connected with people both inside and outside the organisation, so as to achieve progressive improvement.

It is important the use of the **social balance sheet.** Its specific methodology allows to measure quantitatively and qualitatively the social management of organisations. As we said before, it also can be used the **social report** which accounts the activities carried out by the organisations.

The foregoing shows the need for SMES to adapt to corporate social responsibility principles not just to stay competitive but also to meet the needs of a society which is increasingly calling for greater commitment to the community.

Delivering responsible services, conserving the environment and hiring people who are disabled or at risk of social exclusion are just some of the CSR actions, which can turn a company into an ally in the search for a better world.

Conclusions

Social and occupational integration is a relatively new yet now generalised concept which is based on partnership between public and private entities which are involved in job creation.

It is thus a question of going further with so-called positive discrimination and affording priority to people who, due to marginalisation or social exclusion, face greater obstacles in accessing the labour market. This can be done by using all the tools available to the solidarity economy to achieve the ideal framework for tackling all those problems which the traditional economy is unable to solve.

In this context we should ask whether the formulas offered by the social economy are an alternative instrument to be used to achieve positive outcomes for the socially disadvantaged whose needs have to be met. It is for this reason that both government and the private sector should use corporate social responsibility to take note of the solutions offered by the Third Sector.

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REMUNERATION AS THE INSTRUMENT FOR SHAPING THE SOCIAL POTENTIAL OF ENTERPRISES

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K e y w o r d s: wages, remuneration policy, remuneration instruments, social potential.

A b s t r a c t

Finding the answer to the question whether and to what extent wages are used for shaping the social potential in large production enterprises was the basic goal of the presented studies.

The studies were conducted by means of the questionnaire-based method. They encompassed large industrial enterprises (employing more than 250 employees) situated in the area of Warmińsko-Mazurskie voivodship. Research material was obtained from 45 enterprises.

Generally, the results of the studies conducted indicate that the enterprises covered conducted expansive remuneration polices focused on high effectiveness. Consequently to the priorities they try building remuneration models and select remuneration tools. The appropriate setting of the directions for the implemented remuneration strategy in combination with organizational strategy is accompanied in many companies by clear weakness in the instrumental aspect. Wages are still underappreciated as tools for development of the social potential of the organization and remuneration policies of enterprises are subjected mainly to achievement of short-term goals.

WYNAGRODZENIA JAKO INSTRUMENT KSZTAŁTOWANIA POTENCJAŁU SPOŁECZNEGO PRZEDSIĘBIORSTW

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S ł o w a k l u c z o w e: wynagrodzenia, polityka wynagrodzeń, instrumenty płacowe, potencjał społeczny.

A b s t r a k t

Podstawowym celem prezentowanych badań było znalezienie odpowiedzi na pytanie: czy i w jakim stopniu wynagrodzenia są wykorzystywane w kształtowaniu potencjału społecznego w dużych przedsiębiorstwach produkcyjnych.

Badania przeprowadzono metodą ankietową. Objęto nimi duże (zatrudniające ponad 250 pracowników) przedsiębiorstwa przemysłowe zlokalizowane na terenie województwa warmińsko-mazurskiego. Uzyskano materiał badawczy z 45 przedsiębiorstw.

Wyniki przeprowadzonych badań wskazują, że objęte badaniem przedsiębiorstwa prowadzą ekspansywną, nastawioną na wysoką efektywność politykę wynagrodzeń. Konsekwentnie do priorytetów starają się budować modele kształtowania płac i odbierać narzędzia płacowe. Właściwemu wytyczaniu kierunków realizowanej strategii płacowej w powiązaniu ze strategią organizacji w wielu firmach towarzyszy jednak wyraźna słabość w sferze instrumentalnej. Wciąż nie docenia się wynagrodzeń jako narzędzia kształtowania potencjału społecznego organizacji, a polityka płacowa w przedsiębiorstwach jest podporządkowana przede wszystkim realizacji celów krótkookresowych.

Introduction

Wages, as an important motivation instrument, play an important role in social potential development of organizations understood as the total of characteristics and properties of individual employees (that encompass the elements of widely understood competences such as knowledge, skills, motivation, attitudes and behaviors), determining their current and future ability to attain the organizational goals. Appropriate shaping of systemic solutions in the area of remuneration and combining the remuneration policy with the performance of the strategic goals of the company are of major importance in that aspect.

Remuneration, representing the compensation, the award for the work performed fulfils the motivating function because it represents an instrument for formation of attitudes and behaviors favorable to the organization. The remuneration for work, and in particular its internal structure, forms and relations of wages should influence the employees stimulating their activity, development and taking difficult and responsible tasks (STACHOWSKA 2007, pp. 61–62). The motivational function of wages manifests in the fact that their level and diversity stimulate people to take jobs and assume specific organizational roles, to work effectively and upgrade their qualifications as well as to assume the attitudes and behaviors expected by the employer (OLEKSYN 2001, p. 193).

In many companies it is believed that wages determined by the situation, based on links to the effects, competences or skills of the employees represent the best method of motivation (ARMSTRONG 2009, s. 282). Finding the answer to two fundamental questions: 1) on what base we want to assess employees and their work, and 2) for what we are ready to pay them, is important in the process of developing such remuneration systems.

To achieve the favorable motivational effect of remuneration the enterprise must, as a consequence, assure the:

– appropriate system of assessment of the employees,
– appropriate awards for effective work compatible to the company potential and expectations of the system participants,.

Implementation of the motivational, enterprise interests performance focused, remuneration system also requires (KARASZEWSKA 2003, pp. 68–69):
– individualized approach in the process of designing and selecting remuneration tools,
– coherence of the tools applied,
– defining real standards of behaviors or effectiveness levels representing the condition for obtaining benefits by the employee,
– sending appropriate and relatively fast feedback serving establishment/elimination of behaviors positive/negative from the perspective of the employer,
– relative stability of the developed rules coupled with flexible reactions to the signals from the environment.

The fact that Poland functions within the European Union structures next to many highly developed countries puts the enterprises operating in the Polish market in the position that necessitates deep revaluations in the sphere of wages that would allow using that important instrument of motivation as a strategic strength for competitiveness. This, of course, requires noticing the important role that wages can play in development of the social potential of the organization.

Finding the answer to the question of whether and to what extent wages are used in development of the social potential in large production enterprises was the basic aim of the presented studies.

The following research problems were considered during the studies:
– How the main objective of remuneration policy is determined in the enterprises encompassed by the study?
– What factors influence the structuring of wages in the enterprises covered?
– Based on what criteria the work effectiveness is assessed and what are its results?
– What remuneration instruments serving social potential development are applied in the enterprises covered and what is the scope of their application?
– How far the choice of remuneration policy instrument represents a conscious action focused on attainment of the intended goals?

Methodology of studies

The studies were conducted by means of the questionnaire-based method. The population encompassed by the study consisted of all large (employing more than 250 employees) production enterprises situated in Warmińsko-

-Mazurskie voivodship (50 companies). The questionnaire was addressed to the enterprises indicating the management of human resources management or management staff responsible for decisions concerning the wages. As the response, 45 correctly completed questionnaires were received (returns level at 90%). The study was conducted in 2009.

Private commercial companies (joint stock and limited liability companies) representing 68,9% of the population covered, of which 38,7% were companies with a share of the foreign capital dominated among the enterprises encompassed by the study. The population included also 4 cooperatives, 1 State-owned enterprise, 3 companies of the State Treasury and 6 enterprises of individuals (Tab. 1).

In general, the foreign capital interest was recorded in 26,7% of the population covered. Six of the companies involved were Warsaw Stock Exchange listed companies.

Table 1

Enterprises covered according to the form of ownership

Form of ownership		Number	Percent of enterprises covered
State-owned enterprise		1	2.2
Company of the State Treasury		3	6.7
Private commercial company without foreign interest		19	42.2
Private commercial company with foreign interest:	up to 50%	1	2.2
	over 50%	3	6.7
	100%	8	17.8
Cooperative		4	8.9
Enterprise of an individual		6	13.3
Total:		45	100.0

Source: own studies.

Enterprises with year average employment ranging from 250 to 499 people dominated among the entities covered by the study (60% of the population). The remaining companies employed 500 and more employees (including 8 with employment exceeding 1000 people).

Food industry was most numerously represented in the studied sample (33,3% of the population) followed by timber and furniture industries (13,3% of the population each) and other industries.

The vast majority of the enterprises covered (91,1%) operated in the market longer than 10 years. The remaining ones had a shorter history of operation.

Considering the development stage represented by the enterprises covered, the majority of them (77,8%) were mature enterprises (with established market position) while the others were the developing enterprises (in the phase of growth).

Results of studies

In response to the question concerning the general strategy implemented by enterprises covered, 31 responses (68,9% of population) indicated the strategy of development (increase in the market share) while the remaining 14 responses indicated the strategy of stabilization (maintaining and defending the market position).

Among the most important goals of business activities, 68,9% of the covered entities indicated care for customer satisfaction. Other important goals were: increase of sales and care for quality of goods and services (66,7% of responses each) followed by maximization of profit (51,1%), care for employee satisfaction (40,0%) and increase of capital productivity (24,4% of responses). In the stock exchange listed companies covered by the study the package of goals indicated included also care for satisfaction of the shareholders.

The fundamental objectives of the enterprises covered in the aspect of human resources management were employing and retaining in the organization of the staff with the highest qualifications and skills (such answers was given by 57,8% of the respondents each). For 46,7% of the entities covered by the study the fundamental objectives of the company human resources management indicated included continuous development of the employees, in 33,3% attention was brought to development of motivational remuneration system and in 26,7% them management stimulating initiative, creativity and autonomy was indicated.

Retaining employees in the organization and stimulating higher effectiveness as goals of the remuneration policies are implemented in over 90% of the companies covered and for ca. 47% of the enterprises that goal was a priority. Attracting appropriate employees to join the organization was another important goal of remuneration policy and more than 30% of the enterprises indicated it as the fundamental goal. Further, the respondents indicated the role of wages in integrating employees with the company and stimulating them for continuous development (over 20% of the companies considered those goals as priorities). To a lesser extent, the remuneration policy in the enterprises covered was also focused on achievement of the goal of development of the required relations at work through the remuneration system (Tab. 2).

Table 2

Importance coefficients for individual goals of remuneration policies in enterprises covered considering also the form of ownership (weighted average)*

Remuneration policy goals	Form of ownership						Total
	State-owned enterprise	Company of the State Treasury	Private commercial company without foreign interest	Private commercial company with foreign interest	Cooperative	Enterprise of an individual	
Attracting appropriate employees to work in the organization	2.0	0.7	1.2	1.3	1.0	1.5	1.2
Retaining employees in the organization	2.0	1.3	1.4	1.4	1.3	1.7	1.4
Stimulating employees to achieve good work effects	2.0	0.7	1.4	1.5	1.5	1.5	1.4
Stimulating employees for continuous education (employee development)	1.0	1.0	1.0	1.2	1.0	1.0	1.1
Integration of employees with the company	1.0	1.7	0.8	1.2	1.0	1.7	1.1
Development of the required relations at work	2.0	0.3	0.9	0.7	0.5	1.3	0.9

* the goals were allocated the following weights: 0 – the enterprise does not implement that goal; 1 – the goal is implemented but it is not a fundamental goal; 2 – this is the fundamental goal of remuneration policy

Source: own studies.

Skills of the employees proved to be the most important factor for determining the wages in the enterprises covered (Tab. 3). In more than 93% of the enterprises that factor influences the wages while 66,7% of the entities consider that factor a priority. Qualifications and widely understood competences also proved important factors (in ca. 50% of the companies they were the fundamental factors influencing wages). Important role in the design of the remuneration system is also played by the effects of work considered the priority in more than 64% of the entities covered and their role is relatively the highest in the companies with interest of foreign capital

The financial situation of the company is considered in designing the remuneration system in the total of around 89% of enterprises. Also elements such as the importance of a given group of employees for creating the success

Table 3

Importance coefficients of the individual factors influencing the remuneration systems in enterprises studied considering the form of ownership (weighted average)*

Factors determining wages	Form of ownership						Total
	State-owned enterprise	Company of the State Treasury	Private commercial company without foreign interest	Private commercial company with foreign interest	Cooperative	Enterprise of an individual	
Qualifications	2.0	1.3	1.4	1.5	1.3	1.2	1.4
Skills	2.0	1.7	1.6	1.6	1.3	1.8	1.6
Widely understood competences (knowledge, skills, motivation, attitudes and behaviors of employees in the work process)	2.0	1.3	1.5	1.5	0.5	1.5	1.4
Employment duration	0.0	0.3	0.6	1.0	0.8	1.0	0.8
Effects of work	2.0	1.3	1.4	1.7	1.5	1.5	1.5
Importance of a given group of employees for creating the success of the company	2.0	1.3	1.1	1.1	0.8	1.2	1.1
Financial situation of the company	1.0	1.7	1.2	1.2	1.3	1.0	1.2
Situation in the labor market	1.0	1.3	0.7	0.9	0.3	1.2	0.8
Costs of retaining	1.0	0.7	0.9	0.8	1.0	1.3	1.0
Level of wages in competitor companies	0.0	0.3	0.6	0.5	0.3	0.5	0.5
Level of wages in companies included in the stock exchange index	0.0	0.0	0.0	0.3	0.0	0.0	0.1
System of values and expectations of employees	1.0	0.7	0.6	0.7	0.5	0.7	0.6

* the factors were allocated the following weights: 0 – the factor does not influence wages; 1 – the factor influences wages but it is not basic in determining them; 2 – it is the basic factor for determining wages in the enterprise

Source: own studies.

of the organization, costs of retaining the employees and labor market situation (factors influencing wages in over 70% of respondent companies) proved important factors determining the remuneration systems.

More than a half of the entities covered by the study takes into account the levels of employee wages in competitive companies in the process of formulating the remuneration system although that factor is not treated as a priority.

In 60% of the enterprises covered the values and expectations of the employees were considered in designing the remuneration system although in one case only that factor was indicated as having key importance.

The results show the situation in which the duration of employment looses importance as the basic factor influencing the wages although it is still considered in designing the remuneration systems in over 60% of the enterprises covered.

Considering the fact that wage for results (effects of work) is the derivative of the intent to stimulate higher achievements through wages it can be concluded that the fundamental determinant for setting wages in the population studied is consistent with the declared fundamental goal of the remuneration policy. It could seem surprising, however, that stimulating employees for development was ranked only third in the hierarchy of importance of the goals for the remuneration policies implemented by the companies covered in the situation where attainment of that goal is supported by the model of wage for competences (competences are clearly ranked high among the listed factors influencing remuneration structures) declared by the enterprises.

In the majority of enterprises covered by the study (over 62%), the average gross wage ranged from PLN 2000 to PLN 3000. The majority of respondents (over 70%) also declared the level of wages in the enterprise as similar to the competitor enterprises in the local labor market.

Application of market reviews of wages is declared by ca. 49% of entities covered. The information from those reviews is used mainly in determining the wages of employees employed in key positions or positions for which obtaining complete staffing is particularly difficult. The market competitors as assumed as benchmark in designing the levels and relations of wages in majority of the enterprises covered.

Valuation of work was conducted in more than 53% of the enterprises covered and in the majority of such cases it was the base for building the systems of qualification tariffs.

The system of tariffs (qualification tariffs system and remuneration tables) were used in designing the wages by 60% of the enterprises out of which more than 55% apply the designs of broadbanding while the others apply the traditional systems of tariffs with a large number of remuneration categories and narrow bands of wages.

Among the factors influencing basic wage increase within the remuneration band the enterprises indicated work effects (66,7% of indications) and employee competences (57,8%) most frequently. In 31% of enterprises covered the labor market situation and duration of employment are considered while determining the wage rate. More than 33% of the respondents indicated that increases of the basic wage in the enterprise are of discretional nature.

Evaluation of the effect of enterprise activities as a whole and evaluation of group and individual work effects are conducted in ca. 90% of the enterprises covered. Assessment of individual results in conducted in more than 75% of the enterprises.

The following financial measures were most frequently mentioned as those applied in evaluation of enterprise activities: ROS (72% of enterprises conducting the evaluation of the effects of activities at the organization level), financial liquidity measures (56%), profit per employee (ca. 36%), profit per work cost unit (31%), ROA, ROE (over 28%), ROI (over 10%). Additionally, the stock exchange listed companies mentioned indicators such as: EBIDTA, EVA, EPS and CFROI.

The financial measures of organization operation evaluation are linked to remuneration in 43,6% of enterprises conducting such evaluation. This applies most frequently to the highest level of the management.

In the majority of enterprises covered (over 86%) the overall enterprise operations effects translate most frequently into the variable part of remuneration in the form of bonuses. They influence the basic wages in ca. 29% of the enterprises and in 6,7% they are reflected in the bonuses from enterprise profit.

Tangible results (volume of sales, volume of production, etc.) are the basic criteria on the base of which the assessment of group/team effects is performed in 81,4% of enterprises conducting such assessment. For ca. 33% of such enterprises the degree of performance of tasks plays the role of such a criterion while in 16,3% observation of norms and standards plays the role. The results of that assessment form the base for designing the bonuses (79%), to a lesser extent they influence the awards (35%) and wage increases (over 18%).

In 50% of enterprises declaring performance of the evaluation of the individual effects of work the formalized evaluation system exists and in 82% of such enterprises it covers all the employees. The most frequently applied criteria are: the results of work (in 79,4% of enterprises conducting individual evaluation), level of performance of goals (in 44,1%) and skills (in 41,2%) followed by competences, qualifications of employees and, to a lesser extent, personality characteristics and behavioral criteria. The comprehensive evaluation system is applied by 23,5% of enterprises. The results of the individual evaluation in most cases are: increase or decrease of the bonus (85,3%),

promotion (41,2%), less frequently – complement or reprimand (29,4%), increase or decrease of the basic wage (26,5%) and degradation (14,7%).

Ownership/financial participation as the form of deferred income is used only in 13,3% of the population covered (6 enterprises) of which in three cases it has the form of individual participation, in one group participation and in two cases enterprise participation.

As concerns the higher-ranking managers the enterprises apply ordinary and conditional shares as well as options for shares and deferred participation in profit. The other employees are offered ordinary shares and deferred participation in profit. In 50% of enterprises applying financial participation it covers only those employees who achieve higher than average effects in their work and in the others all the employees indifferent of their individual effects of work.

Other forms of the deferred incomes are applied in the enterprises covered to a minor extent. The saving systems are applied in 15,6% of enterprises only while additional insurance (such as group life insurance, employee pension funds, medical insurance and insurance policies) were offered to their employees by 24,4% of the enterprises.

The studies conducted build the picture of enterprises applying a wide range of auxiliary benefits in remunerating their employees. The most popular auxiliary benefits include a mobile telephone (over 88,9% of indications) and benefits of social type (73,3%). The enterprises also offer w wide range of goods coupons, low interest loans ant training-recreation trips (46,7% of indications each). They also subsidize or cover the costs of holidays (48,9%). More than 62% offer their employees the possibility of using company car and ca. 49% a computer for work at home.

In case of 44% of the enterprises covered the wide range of auxiliary benefits included financing of various types of training activities for employees and subscription of specialist publications aiming at upgrading their level of knowledge.

Further ranking benefits included the possibility of using the parking lot (40% of responses), discounts in purchasing company products and clothing benefits (33,3% responses each), access to sports and recreation facilities and medical care (28,9% each) as well as a credit card (20%). The least popular benefits included housing payments and legal/tax advisory services (15,6% of responses each), purchase or rental of a flat (8,9%) and free rail travel or subsidies to tickets as well as additional days of paid leave (1 response each).

The most extensive spectrum of non-remuneration benefits was offered to the higher rank management staff. There are also benefits the extent of application of which increases while going down the ranks in the hierarchy and those benefits include those of rather traditional type such as coupons for

purchase of goods, subsidies to holidays or payment of their costs or social benefits.

The possibility of choosing the components of total remuneration within a specified limit was indicated by 6.7% of the enterprises covered (3 enterprises) only, and in all those cases the cafeteria applied to the highest level of management while the choices covered the auxiliary benefits only.

Conclusion

The enterprises covered by the study generally considered retaining of employees in the organization and stimulating them for higher effectiveness as the fundamental goals of the implemented remuneration policy. Those goals correspond with the priorities of general strategy (increasing the market share or retaining and defending the current market position through increased sales while maintaining care for customer satisfaction and quality of goods and services) and the basic goals in human resources management (obtaining and retaining of staff with the highest qualifications and skills).

It can be concluded that the remuneration development models (wage for result and for competences) assumed by the enterprises covered are consistent with the declared goals of the remuneration policy. According to those models the enterprises covered try selecting also the remuneration tools.

Formal evaluation of the individual results of work using first of all the criteria of results and competences is applied in them commonly, which seems to reflect the declared models of remuneration. In the vast majority of the enterprises covered the evaluation of group and team effects of work is also conducted based first of all on measurable results, which corresponds with performance of the basic operational coals. The results of conducted evaluations, at both the individual and group/team level are most frequently reflected in the variable part of remuneration in the form of bonuses.

In the enterprises covered assessment of the entire enterprise operational effects is commonly performed also by applying a whole range of financial measures. In most cases those measures, however, are the traditional ones such as profit per one employee, indicators of profitability and financial liquidity the basic weakness of which is their short-term nature (they do not reflect enterprise performance in a longer perspective).

To a low extent (in most cases in relation to the highest ranking management) the financial measures serving assessment of enterprise operation are linked to the remuneration although in the majority of entities covered by the study the financial standing of the enterprise is an important factors for development of the remuneration system.

The majority of the enterprises covered apply the tariff system for development of the remuneration system. That system of tariffs was created on the base of the results of work valuation and in more than a half of the cases the concept of the tariffs system with a small number of categories and broadbanding are applied offering higher flexibility of wages and the possibility of conditioning wage increases on results and competences of employees that are indicated as the major factors influencing the increase of basic salary within employment category in the enterprises covered.

The enterprises covered make little use of ownership/financial participation as a form of deferred income. Considering the fact that retaining employees in the organization represents a very important goal of remuneration policy in the majority of the enterprises covered, wider application of stimuli of that type would contribute to better achievement of the specified goal undoubtedly by tying the employees to the enterprise. The scope of applying other forms of deferred incomes (saving systems, additional insurance systems) are also few, which may mean that in the enterprises covered the remuneration policy is subjected mainly to attainment of short-term goals.

The organizations studied offer their employees a wide range of different auxiliary benefits as complements to the traditional remuneration. Very frequently the possibility of using the company car, mobile telephone or computer for private purposes are mentioned among those benefits (mainly in case of management staff and independent specialists). Enterprises covered by the study quite commonly offer various forms of education to their employees (if we remember that stimulating qualifications upgrading represents an important goal of remuneration policy the above indicates that the goals are coherent with the tools). The dominating forms of benefits (social benefits, goods coupons, subsidies to holidays or coverage of their costs, loans originated by the enterprise, etc.) however, seem to indicate that they are of rater traditional character stemming from the former system.

Although the choice of the selected forms of benefits in many of the organizations covered seems to represent a conscious and purposeful activity targeted at attainment of the determined strategy of remuneration (so it represents the design close to the idea of package remuneration) the possibility of choosing the components of total remuneration within a specified limit was just marginally mentioned in the covered enterprises. As shown, cafeteria type remuneration widely used in highly developed countries is practically not used at the enterprises covered by the study.

Generally, the results of the conducted studies indicate that the enterprises covered conduct expansive, high effectiveness focused remuneration policy. Consequently to the priorities they attempt at building remuneration models and selecting remuneration tools. In many enterprises the appropriate deter-

mination of the directions for the implemented remuneration strategy in combination with the organization strategy is accompanied still by evident weakness in the instrumental field. It seems that the realities of Polish economy do not press them to implement on wide scale the more modern and effective solutions. Still, the remuneration as the tool for shaping the social potential of the organization is underappreciated and the remuneration policies of enterprises are subject, first of all, to implementation of short-term goals.

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REGIONAL DIFFERENTIATION OF THE LOW WAGES SECTOR IN THE FEDERAL REPUBLIC OF GERMANY

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K e y w o r d s: employment, low wage, region.

A b s t r a c t

The share of low wage employment in the Federal Republic of Germany has increased significantly during the recent years. Because of considerable disproportions in the size of wages between the western and the eastern Lands it was necessary to introduce two different thresholds of low wages. The conducted studies show that the size of the low wages sector depends on its assumed definition and on the groups of employees included in the study. Its regional differentiation is influenced by numerous factors that are both the consequence of historical happenings and the result of the contemporary transformations taking place within the borders of the united German State.

REGIONALNE ZRÓŻNICOWANIE SEKTORA NISKICH PŁAC W REPUBLICE FEDERALNEJ NIEMIEC

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S ł o w a k l u c z o w e: zatrudnienie, niska płaca, region.

A b s t r a k t

W minionych latach w RFN wzrósł wyraźnie udział niskopłatnego zatrudnienia. Z uwagi na znaczne dysproporcje w wysokościach płac między zachodnimi i wschodnimi landami konieczne było wprowadzenie dwóch różnych progów niskich płac. Przeprowadzone studia pokazują, że wielkość sektora niskich płac zależy od przyjętej jego definicji i grup pracowników włączonych do badania. Na jego regionalne zróżnicowanie ma wpływ wiele czynników będących zarówno konsekwencją historycznych zaszłości, jak i skutkiem współczesnych przeobrażeń w granicach zjednoczonego państwa niemieckiego.

Introduction

The discussion concerning the level of remuneration, including the size of low wages, has made an important contribution to solving the problem of unemployment in Germany since mid-1990s. However, it gained particular importance in the context of the widely understood labor market reform activities referred to as "Hartz IV". The intention of establishing in Germany "the best sector of low wages in Europe" was one of the major goals determined within the frameworks of the proposed changes. There were many reasons for that approach. Relatively moderate wage agreements have not offered any possibility for compensating the losses caused by inflation, high fiscal burdens and social insurance contributions for years. Germany is considered the European "tail light" (*Schlusslicht*) regarding the development of real wages. At the same time, the collective bargaining policy became largely unpredictable and numerous enterprises limited by collective agreements started applying the "opening clauses". Increasingly often groups of low wages covenanted in the collective bargaining agreements are much lower than the requirements set by the trade unions concerning their levels and the economic migration from the new members of the European Union is perceived as the competition to exactly the sector of low wages (ZEEB 2006, p. 10).

Considering the entire complexity of the processes determining the size of the low wages sector in Germany, two of these processes should be pointed out. On one hand growth (in absolute and relative values) and far-reaching expansion "downwards" of the sector takes place while on the other hand increasingly often low paid employment involves people in the middle age group having established vocational qualifications and are employed full time. Additionally, in the regional dimension, the division into the "richer west" and the "poorer east" continues.

Considering the economic, social and political topicality of the sector of low wages, this paper represents an attempt at explaining its comprehension, its scope and regional differentiation. Within these frameworks the dynamics of employment, different thresholds of low wages and the size of the average hourly rate were presented. The formulated thesis indicates causes for the regional diversity of low wages as it assumes that those causes are factors of economic and institutional nature.

The concept and scope of the low wages sector

Considering not only different perspectives which the issue of low wages is approached from, but also predictable economic and social consequences of it, the following two questions should be answered: What criteria must the wage

satisfy to be considered low and what should constitute the base for its identification?

The answer to the above issues should be preceded by some explanations. Firstly, it should be differentiated between low wage and low income (of an individual or a household) that is generated, e.g. as a result of part-time or short-time employment, even if the level of wages is not that low. In that context it is also important whether the low income generated by one person can be treated as additional earnings besides the other, higher income in the household coming from two people or whether the income of one person must finance the family consisting of many members (ZEEB 2006, p. 11). Secondly, it is worth specifying that the notion of "wage" is understood not as the tariff wage but as the effective gross remuneration resulting from the employment relation (RHEIN, STAMM 2006, p. 5). Finally and thirdly, the unit of time for which the measurement of low wage should be defined – whether it makes sense to assume the hourly wage, monthly remuneration or the yearly remuneration? In most cases wages are disbursed at monthly intervals and that is why it would represent an important argument for selecting that time unit. However, the same monthly remuneration can be accompanied by different work times and as a consequence there is risk of classifying full-time employment and part-time employment to the same category of low wages, which would be an obvious error. The hourly wage does not only include the amount of working hours, which makes it more comparable, but also involves the productivity of the workplace. That is why, the low wage per hour allows resigning from considering the absolute level of income and therefore it constitutes a better measure than the other ones (EICHHORST et al. 2005, p. 111).

In order to define the term low wage a so-called threshold value has to be introduced. It can be the arithmetic average or the median. However, the arithmetic average is less resistant to extreme values and as a consequence the median, which divides the amount of the observed wages into two parts, is a better reference value. The 2/3 of the median of wages in a examined population is assumed to be the threshold of low wage[1]. Thus, the point of interest is not the absolute but the relative measure referred to in the subject literature as the statistical definition of low wage[2]. All wages below that threshold represent the sector of low wages.

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[1] The same measure is also applied in the analyses and studies of OECD and the European Commission.

[2] It would be possible to introduce an absolute limit of low wages setting as the threshold value, similar to the threshold of poverty, an income that is guaranteed by the social state and focused on the socio-cultural minimum of existence. In case of Germany that would be the level of the social aid or the dole II, including the housing supplement (EICHHORST et al. 2005, p. 111). However the development trends and structure of low wage employment are largely immune to the choice of the specific limiting value (SCHANK et al. 2008, p. 3).

The results of empirical studies concerning the scope of the sector of low wages depend on the applied definition, the source and the topicality of used data as well as the inclusion or exclusion of specific groups of employees (KALINA, WEINKOPF 2006, p. 2).

Table 1 presents the basic information from and results of studies conducted by three leading German research institutes dealing with the extent of low-wage employment[3].

Table 1

The scope of the sector of low wages in the Federal Republic of Germany in the context of the results of investigations conducted in the years 2001-2003

Research unit name Category of variables	Institute for Employment Research IAB (Institut für Arbeitsmarkt- und Berufsforschung)	German Institute of Economic Research DIW (Deutsches Institut für Wirtschaftsforschung)	Institute for Work and Technology IAT (Institut Arbeit und Technik)
Source of data	IAB – regional random sample (IABS-R01)	socio-economic panel (SOEP)	BA – panel of the employed people
Definition of low wage limit	gross monthly income below 2/3 of the median	gross hourly wage below 2/3 of the median	gross monthly income below 2/3 of the median
General population	employed full time with social insurance (excluding apprentices), 2001 r.	all working people from 16 to 74 years of age, 2003.	employed full time with social insurance (excluding apprentices), 2002.
Low wage threshold	1630 € (Germany as a whole) 1700 € western Lands	8,67 € per working hour	1709 € western Lands 1296 € eastern Lands
Share of low wages in total wages	17.4% Germany as a whole 15.0% western Lands	23.4% Germany as a whole 20.3% western Lands 38.6% eastern Lands	17.1% Germany as a whole 16.6% western Lands 19.0% eastern Lands

Source: RHEIN et al. (2005, p. 2), GOBEL et al. (2005, p. 180), BOSCH, KALINA (2005, pp. 36–37). KALINA, WEINKOPF (2006, p. 3).

The presented data indicate the diversified ranges of the low wage sector being the consequence of using different groups of employees in the investigated population. In the studies by the IAB and the IAT the general population of full

[3] The investigation conducted by Wirtschafts- und Sozialwissenschaftliches Institut in 1997 based on the random sample established and later used by the Institute for Employment Research (IAB-Regionalstichprobe) offered results differing significantly from those presented in Table 1. The threshold of low wages assumed in the investigation was set at the level of 75% of the average wage of the people employed full time. The threshold wages expressed in monetary units for the western and the eastern Lands amounted 2002 euro and 1415 euro respectively while the share of the sector of low wages in relation to all the wages in the western part of Germany constituted 45.9% and in the eastern part of Germany 35.5% (SCHÄFER C. 2003, pp. 420–421, KALINA, WEINKOPF 2006, p. 3).

time employed people was used and that is why the results concerning the share of low wages in overall wages for Germany show little difference (0.3%), whereas the same relation in case of the western Lands shows a slightly larger spread (1.6%). In the DIW paper excessively high values were obtained for both Germany in general (23.4%) and for the western Lands (20.3%) in comparison to the results of the other mentioned institutes, which resulted from using the data encompassing all the employed (even those who were short-time or part-time employed). The extremely high value of the indicator of the share (38.6%) for the eastern Lands can be explained by the fact that the common threshold of low wage was set for the eastern and the western part of Germany while in the other investigations those thresholds were distinguished in such a way, that the wage differentiation between those parts of the country could be presented more adequately.

Dynamics of employment development, differentiated thresholds and average hourly wage in the sector of low wages

Germany has been known for a long time for its balanced structure of wages, but that trend has been reversed significantly. While the share of low wages in the majority of the European Union countries was rather stable or even decreased, in Germany that share has been increasing since mid-1990s and in 2000, for the first time, it exceeded the average of the European Union countries. The increase in low paid employment has also been continued during the recent years, so that today its share in all wages is one of the highest in the united Europe (BOSCH et al. 2008, p. 423).

During the years 1995–2007, the development of the sector of low wages showed diversified dynamics (Fig. 1). Until 1998, in the eastern Lands a slight decrease of those employed in that sector was observable while in the western Lands that share was rather stable.

Only in 1998 it increased evidently and from this moment it showed a differentiated, but still increasing trend. The share of low wages in relation to all wages in Germany between 1998 and 2007 increased from 14.2% to 21.5%. Generally higher deviations of that share in the eastern Lands were caused mainly by a lower number of cases included in the investigations[4]. But, the collapse of the curve representing the development of low wages in the eastern Lands in the year 2006 was caused, inter alia, by the fact that the Federal

[4] The results obtained from the socio-economic panel survey (Soziooekonomisches Panel – SOEP) encompassing over 12000 households in Germany were meant. Those surveys are carried out continually as of 1984 at yearly intervals.

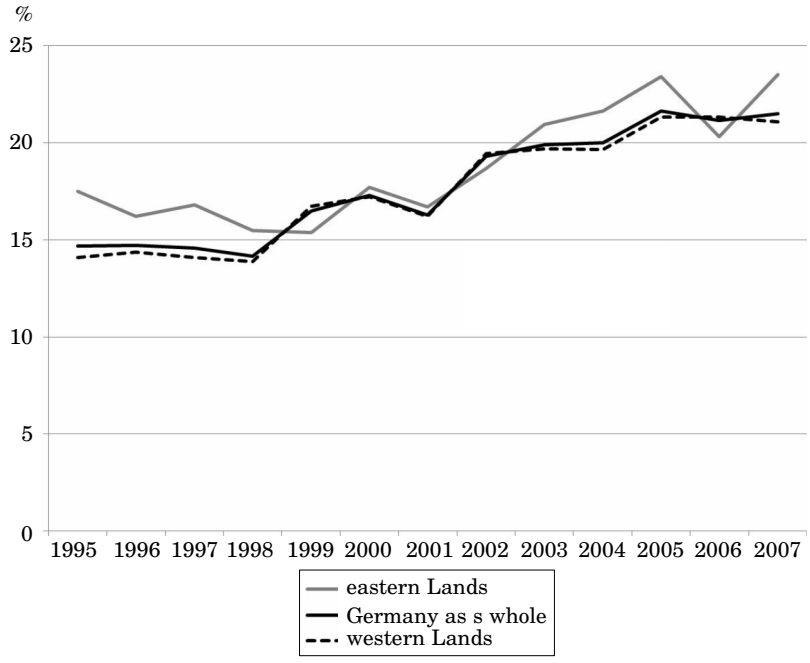


Fig. 1. Share of the employed in the sector of low wages in Germany during the years 1995–2007 (considering the differentiated thresholds of low wages for the eastern and the western lands in %)
Source: KALINA, WEINKOPF (2009, p. 4).

Statistical Office, as of 2005, stopped presenting the data separately for the eastern and the western part of Berlin (KALINA, WEINKOPF 2009, pp. 3–4).

As it concerns the measure, that the threshold of low wages is, particularly in the case of Germany the question appears, whether it is adequate taking into account the differences of the wage levels between the western and the eastern Lands and whether two separate or just one common threshold of low wage should be established. The computations made for separate thresholds and for a single threshold for both parts of Germany indicate significant differences in the level of low-paid employment (Table 2). Differentiated thresholds (west 9.62 euro, east 7.18 euro) allow obtaining comparable results because the shares of low wages in overall wages are similar (west 21.1%, east 23.5%), while when applying the same threshold for the eastern and the western Lands the difference regarding the sector of low wages becomes clear – in the west 18.8% of the employed obtained the wage below the uniform threshold while in the east that percentage was as much as 40.1%. Converting those relations to absolute numbers it results that in both variants of computations similar outcomes were achieved for Germany as a whole – in case of

separate thresholds the low paid employment size in 2007 was 6.5 million people while with the uniform threshold the number of those affected by low wages was 6.8 million people.

Table 2

Thresholds of low wages (gross) and share of low wage employment in total employment in the Federal Republic of Germany in 2007

Details		Separate thresholds of low wages for western and eastern Lands	Standardized low wage thresholds
Low wage threshold (gross per hour)		9.62 € (west) 7.18 € (east)	9.19 €
Share of low wages in overall wages (%)	western Lands eastern Lands germany	21.1 23.5 21.5	18.8 40.1 22.4
Number of people obtaining low wages (in millions)	western Lands eastern Lands Germany	5.4 1.1 6.5	4.8 2.0 6.8

Source: KALINA, WEINKOPF (2009, p. 2).

Calculating the absolute quantities at distinguished low wage thresholds for the western and the eastern Lands their significant differences in relation to the values obtained in case of applying the uniform threshold for the low wage sector should be emphasized (in the first case low wage employment involved 1.1 million and in the second case 2.0 million people). However, the variant of estimating the size of the low wage sector taking into account two separate thresholds assures that the analyses of structure of that sector would not be distorted by including a large part of the east German labor market (KALINA, WEINKOPF 2009, p. 3).

The analysis of the changes in low wage thresholds during the years 1995–2007 allows concluding that in the western Lands their value increased from 8.21 euro to 9.62 euro while in the eastern Lands from 5.79 euro to 7.18 euro (Tab. 3). During the last two years of the discussed period there was no increase in the thresholds of low wages, they even decreased partly. The reasons for that situation can be explained in three ways: firstly, a slight or no increase took place in general wages, secondly, an increasing number of people work for low wages and thirdly, the level of the average wage in the sector of low wages decreased. All those causes influenced the size of the median (KALINA, WEINKOPF 2009, p. 7).

The conclusion that the importance of the particularly low hourly wages increased in the sector of low wages can be drawn from the development of the average hourly wages in both nominal and real terms. Since 2004, the decrease

in values of both of these economic variables can be noticed in the western Lands while in the eastern Lands they were subject to significant deviations. The average real wages between 1995 and 2007 decreased in the western part of Germany by 0.26 euro while in the eastern part they increased by 0.03 euro. During the same time all values of the average wages in the sector of low wages in both parts of Germany were below their thresholds of 1995.

Table 3

Average hourly wage* and thresholds in the sector of low wages in Germany during the years 1995–2007 (in EUR)

Details	Eastern Lands			Western Lands		
	average wage in the sector		low wage threshold	average wage in the sector		low wage threshold
Year	nominal	real**	nominal	nominal	real	nominal
1995	6.03	6.03	8.21	4.66	4.66	5.79
2000	6.76	6.35	8.90	4.96	4.66	6.26
2001	6.45	5.94	8.71	5.10	4.71	6.38
2002	6.96	6.33	9.39	5.32	4.83	6.92
2003	7.18	6.45	9.66	5.50	4.95	7.10
2004	7.26	6.41	9.72	5.47	4.84	7.13
2005	7.24	6.31	9.79	5.60	4.88	7.25
2006	6.90	5.92	9.54	4.97	4.26	6.81
2007	6.88	5.77	9.62	5.60	4.69	7.18

* in case of hired labor, excluding work on short-time or part-time bases.
** after considering the inflation rate that was 19.3%. between 1995 and 2007
Source: KALINA, WEINKOPF (2009, p. 7).

Factors determining the regional differentiation of the low wages sector

The analysis of the unemployment rates in the individual Lands shows evidently the disproportions between them. In all the eastern Lands, during the years 2005–2008, a two-digit unemployment rate continued while in the western part of the country only Bremen experienced such a situation. The eastern Lands that had during that time the highest unemployment rate was Saxony-Anhalt with the following values: 2005 – 20.2%, 2006 – 18.3%, 2007 – 16%, and 2008 – 14% (Fig. 2). Whereas in Baden-Württemberg, the Land with the lowest unemployment rate, the situation was as follows (assuming the same order of analyzed years): 7%, 6.3%, 4.9%, 4.1%.

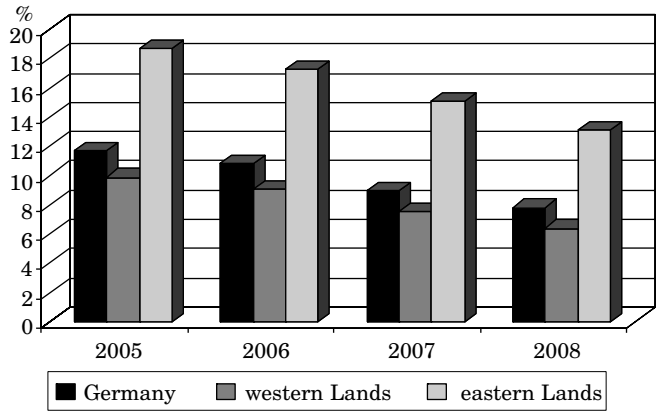


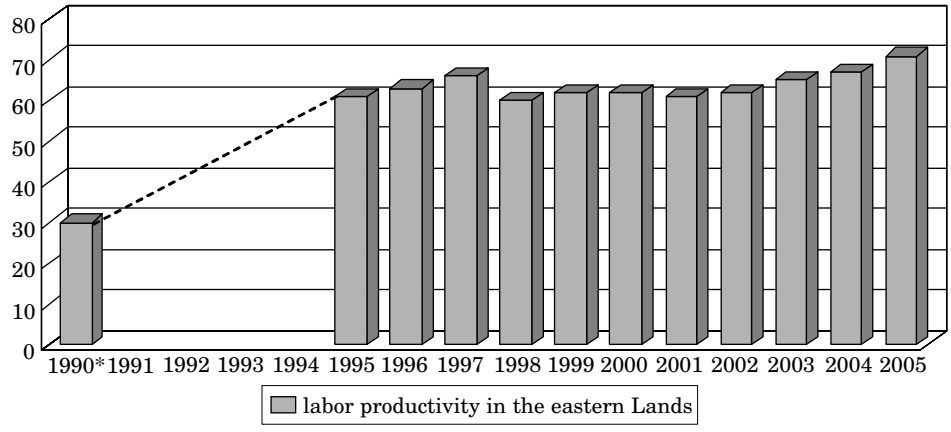
Fig 2. Unemployment rates in eastern and western Lands of Germany during the years 2005–2008
Source: *Arbeitsstatistik* (2008, p. 56).

The presented values of unemployment rates both by region and, partly, at the level of individual Lands show a big gap between the two parts of Germany, which does not remain without influence on the conditions of determining the size of wages. It seems that the less favorable starting point of the employees in the eastern Lands for wage negotiations with the employers is the consequence of that situation in the labor market.

Labor productivity[5] is an important factor influencing the development of the sector of low wages in both parts of Germany. Significant differences in that field exist among all the Lands but the division into "the east" and "the west" is extremely well visible so that the "productivity gap" between the two parts of Germany, despite the fast process of "catching up" has not yet been closed (Fig. 3). That issue should not be seen only as a problem of local nature but it should be seen in the context of the entire German economy and evaluated as a factor influencing its conditions negatively[6]. The explanation of differences in the labor productivity between the east and the west of Germany is linked to the complex issues concerning its determining factors that should include the size of the enterprise. Nonetheless, different studies indicate, that it is correlated significantly with labor productivity. That is why, its lower level in the eastern Lands, can be, at least partly, explained by a less favorable structure in the size of enterprises because there the average

[5] Labor productivity computed on the base of IAB-Betriebspanel data was expressed as the ratio between the value of turnover and the employment in the enterprise (FISCHER et al. 2007, p. 16).

[6] "The development of the new Lands depends. on the economic strength of Germany as well as the other way round also the prosperity of Germany depends significantly on the situation in the new Lands" (*Jahresbericht*. 2006, p. 8).



* estimatetd value

Fig 3. Differences in the labor productivity levels between the western and the eastern Lands of the Federal Republic of Germany during the years 1990–2005 (western Lands = 100)
Source: FISCHER et al. (2007, p. 18).

enterprise size is clearly smaller than in the western Lands[7] (FISCHER et al. 2007, pp. 18–19).

Next to labor productivity, the costs of labor represent a factor that may be an important and at the same time convincing argument for the necessity of differentiating the level of low wages in the eastern and the western Lands of Germany. Starting from the year 2000, those costs increased in the processing sector in both parts of Germany (Fig. 2) while in the west of the country, in 2008 they amounted 56 090 euro per full-time employee and in the east 37 140 euro, with it that distance has not changed notably in absolute terms during the recent years. However, the relative values reveal a slow process of closing the gap. In 1992 the labor costs in the new Lands were only 55% of the level in western Germany, while in 2008 already 66%. This results mainly from the clearly higher dynamics of labor costs in the eastern Lands because during the period of 1992–2008 they increased in average by 3.7% per year while in the western Lands by only 2.4%. The net wages corresponded to those levels and the difference between the costs of labor and the net wage in the western Lands was 23 340 euro while in the eastern Lands 13 950 euro. In 2008, the structure of labor costs changed, mainly caused by the decrease of the social insurance contribution, although 24.8% of the labor costs in the western Lands and 26.7% in the eastern Lands was generated on the base of the statutory

[7] According to the assumed classes of enterprise size (*Betriebsgrößsenklassen*) on 30.06.2006 in the western Lands there were 22% and in the eastern Lands 27% of enterprises employing 1 to 9 employees and, respectively 26% and 15% employing over 250 employees (FISCHER et al. 2007, p. 19).

directives and as a consequence they could not be negotiated freely between the parties of the employment contract[8] (SCHRÖDER 2009, pp. 1 and 9).

Since mid-1990s, the process of permanent erosion of territorial collective employment contracts (*Flachentarifvertrage*) has taken place in the Federal Republic of Germany[9], with it also the organizational and institutional power of the trade unions and it has continued until the present day. It does not progress in "big jumps" but it is of a creeping nature, it has numerous causes and forms of appearing. One of them is the deterioration of the conditions of economic development and structural changes in the labor market, which limited significantly the field of operations of trade unions (BISPINCK, SCHULTEN 2009, p. 201). In the public debate the decrease of interest in trade unions among the enterprises is interpreted as the "retreat" caused by the dissatisfaction with the industry's collective agreements[10] (KOHAUT, ELLGUTH 2008, p. 1).

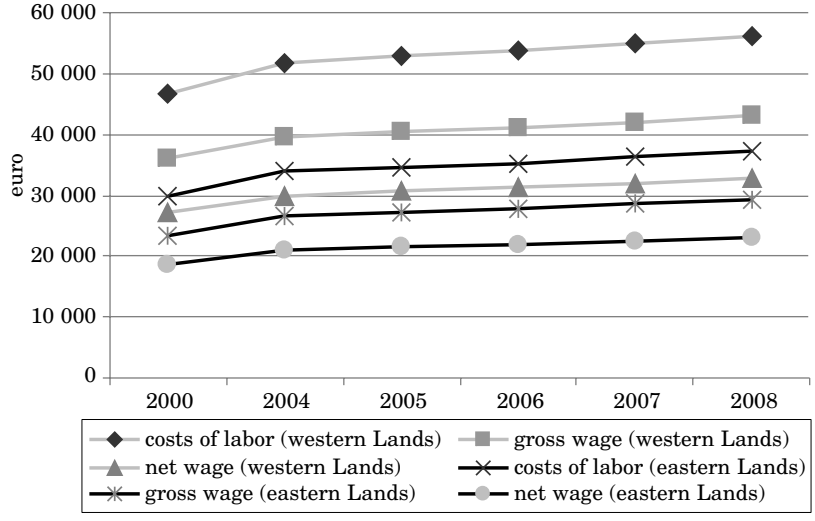


Fig. 4. Costs of labor and net wage in the processing sector in the western and the eastern Lands the Federal Republic of Germany during the years 2000–2008 (in EUR)
Source: SCHRÖDER (2009, pp. 6 and 9).

[8] That situation is caused by the higher effective rate of the social insurance contribution in the new Lands as a larger proportion of the income is subject to that contribution and the accident insurance rate is higher (SCHRÖDER 2009, p. 10).

[9] *Flächentarifvertrag* is the collective contract effective at the spatially determined area (tariff area/territory) or specified jurisdiction (e.g. Land or county). It covers one or several industries (e.g. metal processing, retail trade, construction, services) and as a consequence it is frequently referred to as the industry collective contracts (http://de.wikipedia.org/wiki/Flächentarifvertrag).

[10] For years the discussions on the industry collective contracts have been continuing because they are negotiated for the entire industries and do not consider the situation of individual enterprises. Those criticizing them consider them, as a consequence of the new needs concerning increasing flexibility of enterprises, rigid and as a result the "brake on the adjustment abilities of the enterprises" (*als Hemmschuh für die betriebliche Anpassungsfähigkeit*) (KOHAUT, ELLGUTH 2008, p. 2).

Since the integration of Germany the differentiated level of trade unions membership and binding of enterprises by collective contracts has existed. Around 62% of the employed work in enterprises where there is such a binding, while in the western Lands that percentage is much higher than in the eastern ones (Fig. 3). Considering particular industries it can be concluded that large differentiation in that point exists: in public administration and construction industry the trade unions membership is 96%, and in energy sector 90%; the sector producing investment goods is in the middle zone (65%), while the sector dealing with comprehensive services for enterprises is at the end of that ranking (45%). The size of the enterprise represents an important criterion in the analysis of trade union membership among employees – in large enterprises employing over 500 people more than 90% of the employees belong to trade unions while in small enterprises employing up to 9 people only one third of them are trade union members. Newly established enterprises are much less frequently tied by collective contracts than the older ones (BISPINCK, SCHULTEN 2009, p. 203, KOHAUT, ELLGUTH 2008, pp. 5 and 7).

A significant decrease in membership of the German trade unions can be observed since the late 1990s when in the western Lands that membership decreased from 76% in 1998 to 63% in 2007 while in the eastern Lands that decrease amounted from 63% to 54%. In many areas covered by the collective contracts the "no tariff conditions" (*tariflose Zustände*) have existed for years. Although the collective contracts are still binding, formally the tariff norms are

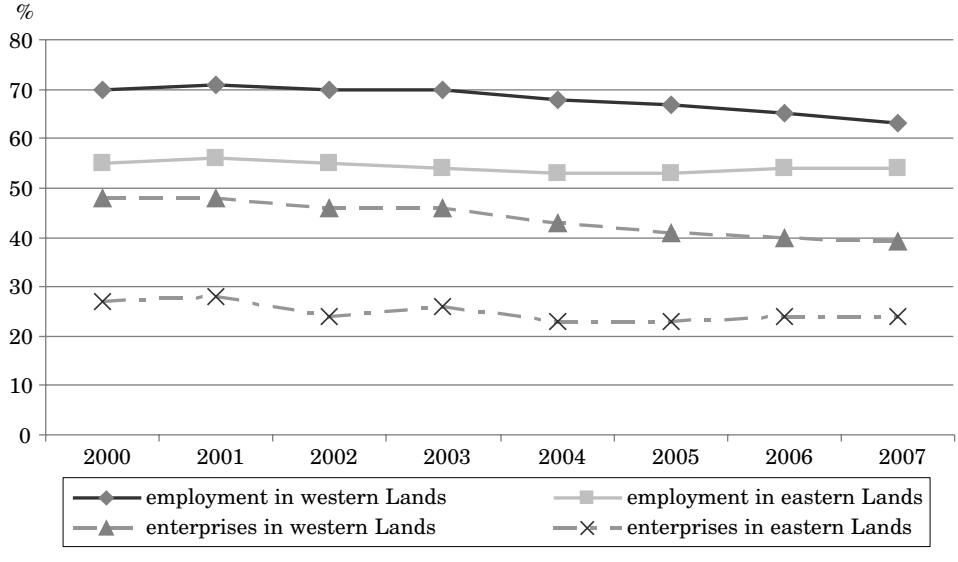


Fig. 5. Level of trade unions membership among employees and level of binding the enterprises by the collective employment contracts in Germany during the years 2000–2007

Source: BISPINCK, SCHULTEN (2009, p. 203).

only of secondary importance because the employers may substitute them with other regulations. This applies mainly to poorly penetrated by trade unions industries dominated by small workshop type and service enterprises (BISPINCK, SCHULTEN 2009, pp. 203–204).

With the decrease in importance of the collective agreements covering more than one enterprise a slight increase in the number of enterprises that are geared to such contracts takes place, i.e. the collective wage agreements are only the reference point for their decisions concerning the development of the payroll system and work conditions.. In this scale a clear disproportion between the western and the eastern Lands can be observed. Significant differences occur also in both parts of the Federal Republic of Germany in the use of wider than company and company collective contracts[11] (Fig. 4). However, the relatively high percentage of enterprises in the eastern Lands (55%) as compared to the western Lands (41%) that are not bound by collective contracts deserves attention.

The decentralization implemented together with increasing the work time flexibility represents the general trend in development of tariff policies as of 1980s. The response to the "wild" version of it was the introduction of the so-called "opening clauses" thanks to which the parties to the collective contract may, during negotiating the individual issues or regulations, resign the compulsory character of the tariff contract and by the same "open the door for individual solutions"[12].

The presented group of factors having a significant influence on the development of the differentiared levels of low wage employment in both parts of Germany cannot be closed. In the theoretical sense, many other causes of that differentiation should be considered, although not all of them, as a consequence of incompleteness of the so far conducted studies or of differences in method-

[11] Company collective contracts are often concluded as the so-called discretional collective contracts that are concluded with enterprises that are not (yet or already) members of the confederation of employers and as a consequence formally are not subject to the tariffs. Actually, however, they basically accept the standards negotiated in the wider than company collective contracts. This is a clear deviation from the principles effective in making company contracts because in that later case the standards effective in the given enterprise are clearly defined as without reference to the regulations in the wider than company contracts. That is why the provisions in both wider than company and company contracts can frequently be equivalent (HAIPETER 2009, p. 159).

[12] http://www.vnr.de/b2b/personal/arbeitsrecht/die-oeffnungsklausel-im-tarifvertrag.html. In that respect there are two positions among theoreticians. According to O. Jacobi, the opening clauses represent the functional adjustment of the tariff-based system to the new conditions as they allow precise control of tariff standards in respect to a specific enterprise. On the other hand, R. Bispinck believes that a clear change in the function of the clauses takes place. Their importance as the basic regulation on flexible work time decreased in the context of extending the working time by enterprises and tariff opening goes wider and wider beyond the particularly difficult economic situations, whereasnot achieving the standard levels (determined by tariff contracts) in relation to the regulation of material issues is becoming increasingly common (HAIPETER 2009, p. 77).

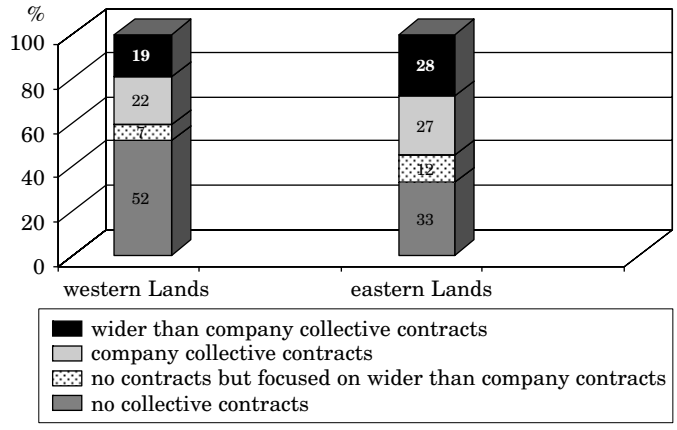


Fig. 6. Binding by collective contracts in German enterprises in 2007 (%)
Source: KOHAUT, ELLGUTH (2008, p. 1).

ological assumptions, can be considered. The expanding sector of services ("tertialization of the economy") and numerous new forms of employment that are politically intended and supported financially could probably represent an interesting research area in which regional disproportions in the field of low wages should appear (FACHINGER 2007, p. 529). At the same time empirical findings indicate clearly the differing characteristics of that sector in both parts of Germany. While the high share of women and low skilled people is characteristic for the eastern and western Lands, different social patterns are reflected as it concerns individual types of households (*unterschiedliche Gesellschaftsmuster*)[13]. The situation is similar in case of non-standard employment in the eastern Lands where an increased influence of only some of its forms on the probability of appearance of low wage can be noticed while in the western Lands it applies to almost all the forms (WILDE, KELLER 2008, p. 426).

Among many arguments justifying the lower level of wages in the eastern Lands of the Federal Republic of Germany one can also be found that indicates the adjusting influence of regional differences in prices on the level of available incomes of households. More exactly speaking, the general level of wages is lower in the eastern Lands because more favorable price relations of goods and services purchased by those households balance the differences in incomes. That conclusion is partly confirmed by the results of studies presenting that during the years 2005–2008 the income gap between the eastern and the western part of Germany decreased by around 5% (from 21% to 16%). Detailed computations

[13] In the western Landss, among the households with children, a much lower probability exists of getting into the sector of low wages than in the eastern Lands where no significant differences were found in that area between households with and without children (WILDE, KELLER 2008, p. 424).

prove that thanks to the regional differences in prices the average incomes (computed in 2005 prices) in the east increased by 4.7% while in the west decreased by 1.2%. However, those results caused no significant changes in the basic trend of the recent years and they did not result in a complete closing of the existing gaps in the division of personal incomes between the eastern and the western part of the Federal Republic (GOEBEL et al. 2009, pp. 891–894).

Conclusion

The results of the above analysis show that the extent of the sector of low wages in the Federal Republic of Germany is increasing while the average wage within its frameworks is decreasing. More than every fifth employed person is working below the low wage threshold. The introduction of two separate thresholds of low wages was necessary because of the big differences in the levels of wages in both parts of Germany. The lower one is characteristic for the eastern Lands and it is determined by the following factors:

– high unemployment level that causes that the starting position of the unemployed in wage negotiations is weaker than in the western Lands;

– the existing "productivity gap" continuing, among others, as a consequence of the less favorable structure regarding the size of the enterprises among which smaller enterprises than those in the western Lands dominate;

– lower costs of labor determining also lower net wages;

– a lower level of binding the enterprises with collective contracts, which causes that a larger number of employment contracts contains wage conditions determined below the tariff standards and are treated in wider than company collective contracts as the minimum wage.

In addition to the specified causes for the lower level of wages in the eastern Lands it is also worth mentioning the (minor) influence of regional price differences on the level of household income. Hereby it should be highlighted that all presented determining factors do not operate separately but they mutually depend on and influence each other with a different intensity creating an exceptionally complex and dynamic system.

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INDICATORS OF WARMIŃSKO-MAZURSKIE VOIVODSHIP SUSTAINABLE DEVELOPMENT IN THE ECONOMIC ASPECT

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K e y w o r d s: sustainable development, economic system, indicator-based evaluation.

A b s t r a c t

Sustainable development should be analysed considering numerous aspects, including environmental, social and economic system. This study aimed at assessment of the economic order at regional level. The study encompassed Warmińsko-Mazurskie voivodship. The indicators of sustainable development concerning the characteristics of economic system were computed on the base of the statistical data for the years 2003–2007. The data was collected from the Regional Databank (BDR) and processed applying the indicator-based comparative evaluation method. Six areas were identified: 1) environmental impact, 2) employment, 3) investment outlays, 4) entrepreneurship, 5) agriculture and 6) accessibility of products, services and infrastructure. The studies indicate that the majority of indicators scored below the average as compared to the other voivodships and in the covered areas only the agriculture was characterized by scores higher than the average for the other voivodships in the country. The general score for the sustainable economic development was lower than the average for the remaining voivodships of Poland: from 72,18% to 78,88%. The dynamics of changes over the years covered, however, indicates the increase in the total score of economic sustainability.

WSKAŹNIKI ZRÓWNOWAŻONEGO ROZWOJU WOJEWÓDZTWA WARMIŃSKO-MAZURSKIEGO W ASPEKCIE GOSPODARCZYM

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S ł o w a k l u c z o w e: rozwój zrównoważony, ład gospodarczy, ocena wskaźnikowa.

A b s t r a k t

Rozwój zrównoważony należy rozpatrywać, uwzględniając wiele aspektów, w tym ład środowiskowy, społeczny i gospodarczy. Celem badań była ocena ładu gospodarczego na poziomie regionalnym. Badaniami objęto województwo warmińsko-mazurskie. Wskaźniki zrównoważonego rozwoju w zakresie charakterystyki ładu gospodarczego obliczono na podstawie danych statystycznych z lat

2003–2007. Dane zebrane z zasobów Banku Danych Regionalnych (BDR) opracowano wskaźnikową metodą porównawczą. Wyróżniono sześć dziedzin: 1) oddziaływanie na środowisko, 2) zatrudnienie, 3) nakłady inwestycyjne, 4) przedsiębiorczość, 5) rolnictwo i 6) dostępność produktów i usług oraz infrastruktury. Z badań wynika, że większość wskaźników otrzymała oceny poniżej średniej na tle pozostałych województw, a z badanych dziedzin jedynie rolnictwo charakteryzowało się wyższą oceną od średniej pozostałych województw w kraju. Ogólna ocena zrównoważenia rozwoju gospodarczego osiągnęła poziom poniżej średniej w stosunku do pozostałych województw Polski: od 72,18 do 78,88%. Dynamika zmian w badanych latach wskazuje jednak wzrost ogólnej oceny zrównoważenia gospodarczego.

Introduction

The idea of sustainable development is not new. Already during prehistoric times tribes can be found for which maintaining the stability of natural and cultural environment determined the economic and social activities. A similarly highly conscientious economy protecting the resources was conducted by the Karen people living in subtropical regions of north-western Thailand or the people in China with 5000 years of tradition in terraced plots cultivation (KOŚMICKI 2007, pp. 187–192). The term "sustainable development" in current times was used in 1980 in the Global strategy of nature protection and it assumes balancing and durability not only in the natural, but also social and economic categories, which means improvement of widely understood quality of life over a long-term period, maintaining ecosystems with simultaneous economic growth. KOŚMICKI (2007, pp. 187–192) highlights, that stopping the man from negative aspects of activities does not mean the necessity for inhibiting the development and sustainable development should be understood as the lasting process leading to improving the functioning of humanity in both the material and non-material sense that would be harmless to the environment. As a consequence the social and economic issues should not be dismissed and the sustainable development should not be interpreted too narrowly (only from the environmental perspective. KRUK (2009 after Ayala-Carcedo) says that particularly in the developing countries economic growth precedes the social development only after which the sustainable development takes place. Countries aim first at securing economic growth and then the social development takes place. Following the social development, associated with welfare and quality of living of the population, the care for the status of the environment appears. Maintaining balance among the individual aspects of sustainable development (economic, social and environmental) is becoming an important issue also in the developed countries. Monitoring and evaluation of the sustainable development level in the individual aspects: environmental, social and economic at different levels: local, regional and national or even global (BORYS 2005, pp. 22–62) or according to the sectoral approach (BORYS 2009,

pp. 166–185) remains an important issue. Conducting the evaluation would allow investigating the changes at time intervals and determining the level of the attainment of the goals assumed to achieve sustainable development in different types of strategic documents. Appropriately chosen and selected indicators and indexes can facilitate this. The set of selected indicators represents the statistical reflection of the descriptive definition of sustainable development (BORYS 2002, s. 39–40).

The studies aimed at determination of the level of sustainable economic development in Warmińsko-Mazurskie voivodship as compared to the remaining voivodships of Poland during the years 2003–2007.

Methodology of studies

The data was processed applying the indicator-based comparative evaluation method. Chosen indicators were selected to characterize the economic sustainability and computed on the base of the statistical data for the years 2003–2007. The data was collected from the Regional Databank (BDR) for the years 2003–2007. Twenty five indicators grouped in six areas: 1) environmental impact, 2) employment, 3) investment outlays, 4) entrepreneurship, 5) agriculture and 6) accessibility of products, services and infrastructure were used for evaluation of the economic system. The selected areas were described using the following characteristics:

1) environmental impact:
- W_1 – electric power consumption (in kWh) per capita,
- W^2 – water consumption (in m^3) per capita,
- W_3 – gas consumption (in m^3) per capita,
- W_4 – industrial waste generated in a year (in Mg) per 1 enterprise generating waste,
- W_5 – wastewater drained by sewers network (in dm^3);

2) employment:
- W_6 – share of employed under conditions involving work environment risks in the total number of employed (in %),
- W_7 – employment ratio in age group 15–64 years (in %),
- W_8 – demographic burden ratio (in %),
- W_9 – share of employment in market services sector in the total number of employed (in %),
- W_{10} – share of employed in the industrial sector in the total number of employed (in %),

3) investment outlays:
- W_{11} – investment outlays per capita (in PLN),

– W_{12} – outlays on innovation in industry (in PLN M);

4) entrepreneurship:

– W_{13} – share of private sector economic entities in the total number of economic entities (in %),
– W_{14} – entities registered with the REGON register per 10,000 of population,
– W_{15} – entities newly registered with the REGON register per 10,000 of population,
– W_{16} – entities removed from the REGON register per 10,000 of population;

5) agriculture:

– W_{17} – purchases of agricultural products per 1 ha of agricultural land (in kg),
– W_{18} – consumption of mineral fertilizers per 1 ha of agricultural land (in kg NPK),
– W_{19} – share of agricultural production in total production (in %);

6) accessibility of products, services and infrastructure:

– W_{20} – number of beds in collective accommodation facilities per 1000 residents,
– W_{21} – number of cars per 1000 residents,
– W_{22} – length of operating gas network (in km),
– W_{23} – length of hardened surface public roads (in km),
– W_{24} – length of operating railway lines per 100 km^2 of voivodship area (in km),
– W_{25} – length of operating sewers network per 100 km^2 of voivodship area (in km).

Indicators W_1, W_2, W_4, W_6, W_8, W_{16} and W_{19} were treated as de-stimulating factors, the other ones as stimulating factors. For each indicator the so-called score showing by how many percent that indicator is better or worse than the average for the compared voivodships was computed (ROGALA 2005, pp. 237–246). The evaluation considers the uniform preference, i.e. the higher the score the better the situation of the investigated entity, while the average for the other units was 100%. In the studies the method of zero unitarisation of referencing the "unitarised" indicators to the average applying the following formulas was applied (BORYS 1984, BORYS and ROGALA 2004 pp. 601–608, ROGALA 2005 pp. 237–246):

for stimulating factors

$$(1)\quad O_P = [(W_i - W_{\min})/(W_{\max} - W_{\min})] \cdot 100\%$$

for de-stimulating factors

$$(2)\quad O_R = [(W_{\max} - W_i)/(W_{\max} - W_{\min})] \cdot 100\%$$

for the average stimulator indicator

$$(3)\quad O_{P\_śr} = [(W_{śred} - W_{\min})/(W_{\max} - W_{\min})] \cdot 100\%$$

for the average de-stimulator indicator

$$(4)\quad O_{R\_śr} = [(W_{ma}{}^{x} - W_{śred})/(W_{\max} - W_{\min})] \cdot 100\%$$

where:
O_P or O_R – score of the W indicator for the voivodship,
$O_{P\,-\,śr}$ or $O_{R\,-\,śr}$ – score of the average of the indicators for the group of units (voivodships) compared); that score depends on the distribution of the indicator values,
W_i – value of the indicator of the evaluated unit,
$W_{\min}$ – minimum value of the indicator for the given sample,
$W_{\max}$ – maximum value of the indicator for the given sample,
$W_{śred}$ – average value of the indicator for the given sample.

Next, the values of the indicators were compared to the average level in the group of units (voivodships) compared according to the formula:
(5) $[(O_P/O_{P\,-\,śr}) \cdot 100\%] - 100\%$ or $[(O_R/O_{R\,-\,śr}) \cdot 100\%] - 100\%$.

The tables present the scores of the indicators and the average scores for areas with dynamics of changes.

Results of studies on Warmińsko-Mazurskie voivodship sustainable economic development

Characteristic of the area of study

The area of Warmińsko-Mazurskie voivodship is 24203 km^2 representing 7.7% of the territory of Poland. It is the fourth largest in area voivodship in the country. It has diversified morphology and it is characterized by diversity of natural resources with a large share of inland surface waters (over 6% of the area). The percentage of forests at 29% is close to the national average. Agricultural land represents over 54% of the area. The population of the voivodship is over 1.4 million while the population density is the lowest in the country at 59 persons per 1 km^2. It is ethnically diversified. The population of the voivodship is relatively young with 23.2% of the population in pre-productive age, 13.3% in post-productive age and 63.5% of the population are people in the productive age. The voivodship is one of the least polluted in the country. The major industries are food industry and furniture industry. Tourism develops as a consequence of favourable conditions. The same applies to fishery. In 2007, 113058 business entities were recorded in the REGON system i.e. 0.08 entity per capita.

Sustainability of economic development of the voivodship

As concerns environmental impact, five indicators were analysed to allow evaluation of the pressure on the environment as compared to the other

voivodships in the country. The studies showed that only W_4 indicator – industrial waste generated in a year (in Mg) reached the level exceeding the average (from 120.04 to 120.46%). The other indicators for the years covered did not exceed the average for the remaining voivodships. The lowest value was recorded for the W_5 indicator – wastewater drained through the sewers network (in dm^3), which did not even reach 40%. Also the W_3 indicator – consumption of gas per capita (in m^3) scored low not exceeding 60%, and additionally as of 2004 it gradually decreased to reach slightly below 51% in 2007. Insufficient equipment of the voivodship area with environment protection infrastructure, particularly sewers and gas network, continues to be a problem (tab. 1).

Table 1

Indicator-based evaluation – deviation from the average [%] during the years 2003–2007

Symbol	Character of indicator*	Name	Year				
			2003	2004	2005	2006	2007
1	2	3	4	5	6	7	8
Environmental impact							
W_1	*D*	electric power consumption (in kWh) per capita	83.70	83.00	53.98	83.36	85.05
W_2	*D*	water consumption (in m^3) per capita	94.36	89.01	98.85	97.33	101.05
W_3	*S*	gas consumption (in m^3) per capita	54.05	57.93	56.52	54.93	50.72
W_4	*D*	industrial waste generated in a year (in Mg) per 1 enterprise generating waste	120.10	120.04	120.82	120.50	120.46
W_5	*S*	wastewater drained by sewers network (in dm^3)	38.42	38.38	39.34	38.68	36.76
Employment							
W_6	*D*	share of employed under conditions involving work environment risks in the total number of employed (in %)	121.54	120.61	118.35	120.50	120.79
W_7	*S*	employment ratio in age group 15-64 years (in %)	29.59	22.50	12.07	25.98	52.56
W_8	*D*	demographic burden ratio (in %)	98.92	104.50	109.77	118.99	124.87
W_9	*S*	share of employment in market services sector in the total number of employed (in %)	134.90	119.46	110.69	120.97	109.07
W_{10}	*S*	share of employed in the industrial sector in the total number of employed (in %)	82.04	111.13	115.60	96.18	118.41

cont. Table 1

1	2	3	4	5	6	7	8
Investment outlays							
W_{11}	*S*	investment outlays per capita (in PLN)	37.82	31.79	65.09	74.41	55.52
W_{12}	*S*	outlays on innovation in industry (in PLN M)	14.58	8.41	21.32	24.98	10.79
Entrepreneurship							
W_{13}	*S*	share of private sector economic entities in the total number of economic entities (in %)	0	0	0	0	0
W_{14}	*S*	entities registered with the REGON register per 10.000 of population	40.11	39.97	42.27	42.63	44.46
W_{15}	*S*	entities newly registered with the REGON register per 10.000 of population	92.56	107.80	111.95	98.32	88.64
W_{16}	*D*	entities removed from the REGON register per 10.000 of population	4.64	65.15	92.33	105.39	110.98
Agriculture							
W_{17}	*S*	purchases of agricultural products per 1 ha of agricultural land (in kg)	213.44	164.31	143.52	177.99	161.47
W_{18}	*S*	consumption of mineral fertilizers per 1 ha of agricultural land (in kg NPK)	68.64	64.69	63.74	105.14	110.43
W_{19}	*D*	share of agricultural production in total production (in %)	81.32	74.07	64.20	73.56	66.67
Accessibility of products, services and infrastructure							
W_{20}	*S*	number of beds in collective accommodation facilities per 1000 residents	166.93	167.47	190.55	193.92	199.48
W_{21}	*S*	number of cars per 1000 residents	0	0	0	4.8	0
W_{22}	*S*	length of operating gas network (in km)	20.07	16.02	17.45	17.40	18.10
W_{23}	*S*	length of hardened surface public roads (in km)	64.27	62.61	62.21	59.51	58.23
W_{24}	*S*	length of operating railway lines per 100 km^2 of voivodship area (in km)	56.76	46.5	45.07	45.31	43.88
W_{25}	*S*	length of operating sewers network per 100 km^2 of voivodship area (in km)	49.28	38.67	37.76	32.93	32.92

* D-de-stimulating factor, S-stimulating factor
Source: own work based on the BDR data.

This is also confirmed by the results of studies in the areas of investment outlays as well as accessibility of products, services and infrastructure. Indicators W_{11} and W_{12} concerning investment outlays showed low scores and the W_{12} indicator did not exceed even 20% during three out of five years covered. This caused the lowest score for the entire area of investment outlays and the last, 16th position in the country in 2007 (tab. 2).

Table 2

Level of Warmińsko-Mazurskie voivodship economic development sustainability during the years 2003–2007

Areas	Score of Warmińsko-Mazurskie voivodship economic development sustainability as compared to other voivodships [%]					
	year					position in the country in 2007
	2003	2004	2005	2006	2007	
Environmental impact	95.28	94.90	90.85	99.11	96.53	12
Employment	93.40	95.65	93.54	96.09	105.14	11
Investment outlays	30.32	25.55	40.48	44.28	22.10	16
Entrepreneurship	34.33	53.23	59.14	61.59	61.02	16
Agriculture	121.14	101.02	90.48	118.90	112.85	8
Accessibility of products, services and infrastructure	59.55	55.21	58.84	58.98	58.77	14
Economic development sustainability	72.78	72.18	73.25	78.88	77.30	13
Dynamics of score changes	100	99.17	100.64	108.37	106.21	

Source: own work based on the BDR data.

Indicator W_{25} – length of operating sewers network per 100 km^2 of the voivodship area scored equally low and the level gradually decreased during the years covered from almost 50% in 2003 to around 33% in 2007. This indicates the increasing disparity between Warmińsko-Mazurskie voivodship and the national average as concerns development of environment protection infrastructure.

In the field of entrepreneurship, two of the four indicators selected showed very low levels during all the years covered. The W_{13} indicator – share of private sector economic entities in the total number of economic entities (in %) assumed the lowest level among all the voivodships in the country in Warmińsko-Mazurskie voivodship over the entire period covered. As a consequence, the score generated was the lowest of all possible at 0%. On the other hand W_{14} indicator – entities registered with the REGON register per 10,000 of population scored around 40% for all the years covered while it still increased

slightly as of 2004. This resulted from the fact that during the period covered the number of entities newly registered with the REGON register per 10,000 residents (W_{15}) increased slightly while the number of entities removed from the register (W_{16}) decreased. As a consequence the higher scores, in some cases exceeding the national average resulted. It is worth noticing that W_{16} indicator – entities removed from the REGON register per 10,000 of population improved significantly, from 4.64% in 2003 to 110.98% in 2007.

In the area of employment five indicators were evaluated. Four among them assumed the level frequently exceeding 100%. Those were the indicators: W_6 – share of employed under conditions involving work environment risks in the total number of employed (in %), W_8 – demographic burden ratio (in %), W_9 – share of employment in market services sector in the total number of employed (in %) and W_{10} – share of employed in the industrial sector in the total number of employed (in %). The scores fluctuated year to year. Only the demographic burden ratio W_8 increased systematically while the indicator W_7 – employment ratio in age group 15–64 years (in %) received very low scores during the years 2003–2006 at under 30% while in 2007 it was slightly lower than 53%. This, however, did not influence the evaluation of employment in any significant way. During the years covered it was near the average and in 2007 exceeded it slightly.

In the field of agriculture three indicators were evaluated and all of them scored over 60%. Indicator W_{17} purchases of agricultural products per 1 ha of agricultural land scored the highest at over 200% in 2003. The score, however, fluctuated across the years covered and during the last year covered it reached over 167%. The share of agricultural production in total production (in %) – indicator W_{19} also decreased. On the other hand, indicator W_{18} consumption of mineral fertilizers per 1 ha of agricultural land (in kg NPK) increased and during the years 2006 and 2007 it exceeded the average for the remaining voivodships. The score for agriculture as a whole was the highest and during almost all the years covered (with the exception of 2005) exceeded 100%.

Accessibility of products, services and infrastructure was assessed on the base of six stimulating factors. Only the W_{20} indicator – number of beds in collective accommodation facilities per 1000 residents – received systematically increasing high scores. That was caused by the tourist values of the voivodship and the opportunities for tourism development that force establishing adequate infrastructure. The remaining indicators scored much worse. The W_{21} indicator showing the number of cars per 1000 residents was the lowest scoring one.

Conclusion

Among the areas covered by the study, only agriculture was characterized by higher scores than the average for the remaining voivodships in the country over the period covered. This resulted mainly from the high level of purchased products per 1 ha of agricultural land and the increase in consumption of mineral fertilizers per 1 ha of agricultural land. The evaluation of the impact of business entities and households on the environment produced lower scores during all the years covered than the average for the remaining voivodships of the country (although it neared it) and it ranged within 90,85%–99,11%, mainly as a consequence of poorly developing environment protection infrastructure (gas and sewers networks). The general evaluation in the field of employment produced similar results. The demographic burden indicator had major influence on the score below the average. In the area of accessibility of products, services and infrastructure the scores increased as of 2004 although during the covered years it never exceeded 59% as compared to the remaining voivodships. The low level of saturation with gas and sewers networks in the voivodship was the key problem in that field. This is also confirmed by the low score in the environmental impact field. Warmińsko-Mazurskie voivodship achieved the lowest scores in comparison to the national average in the fields of entrepreneurship and investment outlays. In the enterprise field the voivodship scored the lowest in the country, mainly as a result of the low share of private sector business entities and the number of entities registered with the REGON system per 10,000 residents. The investment outlays per capita and the outlays on innovations in industry increased from 2003 until 2006. Year 2007 was characterized by the decrease of that score. That score, however, compared to the national average was very low during the entire period covered. The overall score of economic development sustainability was below the average as compared to the remaining voivodships of Poland assuming the values of from 72,18% to 78,88% during the years covered. The dynamics of those changes over the tears covered confirms, however, the increase of the total score of economic sustainability. Slightly better results were obtained in the studies on sustainable development in social and environmental aspects (Łaguna, Witkowska-Dąbrowska 2008).

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URBAN DETERMINANTS OF POLARISATION OF ECONOMIC DEVELOPMENT IN POLAND

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K e y w o r d s: regional development, convergence, urbanisation processes.

A b s t r a c t

Studies which deal with the reasons for disparities between the levels of regional development are an important part of economics theory. According to the neoclassical approach, all differences are transient and they will gradually diminish, owing to various factors, including perfect mobility of the means of production. On the other hand, according to the theories from New Economic Geography, regional polarisation of economic development is a relatively permanent process and the mechanism of its increase is based on so called agglomeration benefits.

Based on this concept, the study assumed that one of the basic reasons for the disparities between the levels of economic development is the diversity of the development of an urban settlement network. In order to verify the hypothesis, sixteen provinces were divided into three groups with different levels of economic development, measured by the value of GDP *per capita*. Subsequently, the development of urban settlement network was evaluated within such groups by means of such indexes as: urbanisation index, city density index, structure of urban centre by size.

The analyses performed have confirmed the assumption. At least partially, economic development of provinces depends on urbanisation processes. However, it means that development disparities between regions are likely to grow in the future.

URBANIZACYJNE DETERMINANTY REGIONALNEJ POLARYZACJI ROZWOJU GOSPODARCZEGO W POLSCE

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S ł o w a k l u c z o w e: rozwój regionalny, konwergencja, procesy urbanizacyjne.

A b s t r a k t

Badania nad przyczynami dysproporcji poziomu rozwoju regionalnego stanowią istotną część teorii ekonomii. Zgodnie z podejściem neoklasycznym wszelkie różnice mają charakter przejściowy i stopniowo zanikają dzięki m.in. doskonałej mobilności czynników produkcji. Z kolei w myśl teorii z nurtu Nowej Geografii Ekonomicznej regionalna polaryzacja rozwoju gospodarczego jest procesem względnie trwałym, a mechanizm jej zwiększania opiera się m.in. na tzw. korzyściach aglomeracji.

Na podstawie tej koncepcji w pracy przyjęto założenie, że jedną z podstawowych przyczyn regionalnych dysproporcji poziomu rozwoju gospodarczego w Polsce jest zróżnicowanie stopnia rozwoju miejskiej sieci osadniczej. W celu weryfikacji tej hipotezy szesnaście województw podzielono na trzy grupy różniące się poziomem rozwoju gospodarczego mierzonym wartością regionalnego PKB *per capita*. Następnie w wyodrębnionych grupach oceniono stopień rozwoju miejskiej sieci osadniczej, za pomocą takich wskaźników, jak: wskaźnik urbanizacji, wskaźnik gęstości miast, struktura ośrodków miejskich, według ich wielkości.

Wyniki analizy pozwalają na potwierdzenie słuszności przyjętego założenia. Rozwój gospodarczy województw, przynajmniej częściowo, jest uwarunkowany różnicami w przebiegu procesów urbanizacyjnych. Oznacza to jednak, że obserwowane obecnie regionalne dysproporcje rozwojowe w przyszłości prawdopodobnie będą wzrastać.

Introduction

The issue of regional development is a significant part of economic thought. In the past few decades, regional development has been increasingly seen as the main determinant of the development of a country. As a consequence, a view has been adopted that macro development reflect and are a consequence of the processes on the local and regional scale.

Increasing interest in regional issues is probably caused by growing disparities between the levels of economic development of the regions. Despite considerable efforts taken within economic policy of the European Union and by individual states, this results in regional divergence rather than convergence. The differences are particularly noticeable between the peripheries and urban (metropolitan) areas.

It would be interesting to consider the issue of whether such tendencies are noticeable in our country. It is a little more than ten years since administrative reforms were implemented to make regional policy more effective and five years since our accession to the European Union, which has made Poland the greatest beneficiary of Community funds. A considerable part is allocated to equalising the level of regional economic development. Confirming or excluding regional economic convergence would be a test of effectiveness of actions taken within operational programs of regional development or it would be a reason for reformulating the principles, tools and goals of the programs. If processes of regional development are really affected by urbanisation processes or even metropolisation of space, it is difficult to consider effective equalisation of the level of economic development. This stems from the fact that it is very difficult, if at all possible, to "control" urbanisation. Therefore, if one of the basic factors which determines developmental disparities cannot be controlled, the basic goal of economic policy (understood so far as equalising the value of regional GDP per capita) is in doubt and actions taken in this respect are ineffective.

Aim, scope and methods of the study

Although there are symptoms of change, equalising the level of economic development of regions, i.e. economic coherence, is the supreme goal of economic policy, both in the domestic dimension and on the pan-European scale, with the GDP per capita being its main measure. Equalising the level of regional development within the entire Community is the priority, but this indirectly means that efforts should be made aimed at regional convergence within individual states. While trying to achieve this goal, nearly 170 billion PLN had been spent by the end of 2009 in Poland alone. Moreover, it is estimated that our country will receive nearly 23 billion Euros to carry out the ROP within the 2007–2013 financial perspective (PRUSEK, KUDEŁKO s. 468). The effectiveness of the policy will be measured by economic convergence between Polish regions.

The aim of the study described in this paper was to analyse regional diversity between the levels of economic development of Polish regions in 1995–2006, which indirectly may also enable evaluation of the effectiveness of economic policy. A study hypothesis has been adopted for the purpose in which it was assumed that the disparities in regional economic development have increased during the past dozen or so years.

The study analysed the factors which affect the process of regional economic divergence. A literature analysis has provided grounds for another study hypothesis, which assumes that the level of urbanisation is one of the major reasons of polarisation of provincial economic development.

The study was a two-stage process. At the beginning, the first study hypothesis was verified. To this end, the function of regression was estimated, which analysed whether the original level of provincial economic development had affected their growth rate in subsequent years. Confirmation of the relationships between those values will provide grounds for a positive verification of the first study hypothesis and it will indirectly indicate a low effectiveness of actions taken in order to equalise the level of regional development.

Regional GDP per capita has been used to determine the level and growth rate of regional economic development. It is one of the synthetic measures most frequently used to describe economic development, both for scientific purposes and to operationalise the economic policy. Despite a large scale of aggregation, it enables one to take into account the structure of business activities in the region, the structure of the means of production, price relationships and demographic factors (STRAHL 2009, p. 17). Subsequently, based on the data on GDP per capita in 2006, the provinces were divided into three groups with different levels of economic development.

Within such groups, an analysis was carried out of the urbanisation processes in the regions. To do this, the city density index, urbanisation index and an analysis of the structure of urban centres in relation to their population were used. Confirmation of the positive relationship between the level of economic development of the groups of provinces and the level of their urbanisation will provide grounds for accepting or rejecting the other of the study hypotheses.

The city density index was calculated according to the following formula:

$$\text{City density index} = \frac{\text{Region area, km}^2}{\text{Number of cities in the region}}$$

The index shows the area per city in a province. Considering the stimulation of economic growth in a region, lower values are better, because it means that a larger part of an area is economically affected by cities.

The urbanisation index is calculated as the percentage of urban population in the total population of the area in question. Taking into account the assumptions made in the study, it can be expected that a higher level of economic development is observed in regions with a relatively higher share of the urban population.

The terms "region" and "province" are used interchangeably in this paper. Although, according to the new nomenclature, the term "region" (referred to as NUTS I) denotes a group of provinces, whereas a single province is a single unit of statistical data aggregation (NUTS II), a simplified assumption was made – taking into account the study objective and the practice used in the literature after the 1999 administrative reform – that an economic region is identical with an administrative unit, i.e. a province.

These statistical analyses will be preceded by a brief review of selected publications about the relationship between urbanisation processes and regional economic development.

The time scope of the study in which the process of regional convergence was analysed covers the years 1995–2006. The level of province urbanisation was determined with the use of 2006 data obtained from open statistical databases (including primarily the Regional Data Bank, http://www.stat.gov.pl/bdr) and a study by the Central Statistical Office, entitled *Cities in figures,* 2005–2006.

Convergence or regional polarisation? – a brief review of selected literature

As Prof. Gorzelak points out, there have always been two opposite tendencies clashing in the economy: a tendency to concentrate and to disperse economic activities. The former causes disparities of economic development, the other favours convergence (GORZELAK 2009, p. 6).

Assuming stability of the effects of scale, proponents of the classic theories stress that the tendency to disperse economic activity is the dominant one. Differences between the marginal values of capital and labour productivity between regions with lower and higher level of economic development, and, consequently, differences in profits and salaries, cause the capital and labour force of a high degree of mobility to migrate in the opposite directions. This causes extreme capital and labour productivity rates and, consequently, the levels of regional development, to converge (STACKELBERG von., HAHNE 1998, p. 55–56). The processes largely explain the dynamic increases in the BIZ volume in recent decades.

The latest publications in the New Economic Geography in turn emphasise the objective character of polarisation processes. Considerations within the NGE focus on pointing to the sources of benefit of scale, which are responsible for increases in productivity of the means of production, until now included as a residual value in models of economic growth (KRUGMAN 1995, p. 371).

"Agglomeration benefits", which increase with progressing urbanisation processes, are usually indicated as the basic determinant of the growing benefits of scale. Agglomeration benefits which are present in big cities and metropolises can be described in four dimensions as: benefits of scale in the area of consumption and production, reduction of the cost of consumption and production, reducing transaction costs and diversification of sources of supply and demand (QUIGLEY 1998, p. 131). Moreover, according to Glaeser, large urban centres create exceptionally favourable conditions for developing and diffusion of knowledge and innovation, which also explains the tendency to concentrate high-tech industries in or close to large urban agglomerations (GLAESER 1992, p. 1130). A high density of modern localisation factors (transport availability, large resources of qualified labour, the presence of universities and research institutes, leisure opportunities) causes the most competitive and innovative business entities to locate their investment in those areas, which in turn deepens the developmental gap between more or less-developed regions.

Economic practice confirms these theoretical considerations. For example, the region with the highest level of economic development in Europe is the "pentagon", i.e. the area situated between London, Paris, Milan, Munich and

Copenhagen. It is the most urbanised region of Europe, occupying only 14% of its area, but "responsible" for nearly 40% of the EU production output. Moreover, its advantage over the other parts of the continent is still growing (*State of...*, 2008).

The data raise the question: can such processes also be observed in Poland? Do the urbanisation processes determine regional economic polarisation – as in the EU – or does the economic development level equalise, owing to, for example, Community funds?

Processes of regional convergence in Poland in 1995–2006

There are two types of convergence distinguished in the literature: β and σ. In the first case, regions with a low level of economic development at the beginning of the study period later develop faster than the other areas. The most frequently used measure of the level and dynamics of economic development is the value and, expressed in percent, annual dynamics of GDP per capita changes (OLEKSZA 2008, s. 272).

In the other type of convergence, income diversity between the economies under study (national, regional) in the absolute dimension decreases. The diversity is basically measured by the variance or standard deviation of GDP *per capita*. Achieving convergence of the first type is necessary but not sufficient to achieve the σ type convergence. This may be because the original level of diversity of regional GDP per capita is so large that the absolute differences between the level of income cannot be reduced even by the highest growth rate in the poorer regions (PRÓCHNIAK 2004, p. 28).

For a start, in order to verify the first study hypothesis, the nature of the relationship between the regional development level in 1995 and their income diversity in 2006 was determined. The natural logarithm of regional GDP per capita was adopted as the measure of development and the difference of natural logarithms of GDP per capita in 2006 and 1995 as the measure of their growth rate. Subsequently, a linear correlation index was calculated for those two values. A negative value of such an index will mean that there was a negative relationship in 1995–2006 between the original level of regional economic development and their later growth rate. In other words, it would mean that there was β type convergence present in Poland. Calculations were made with the use of MS Excel and Statistica 8.0.

The results are:

$$R = 0{,}37$$
$$p = 0{,}157$$

This value of correlation coefficient suggests that there was a positive, yet weak, relationship between the regional development in 1995 and its later value. In other words, β-type convergence was not observed in Polish regions in the years 1995-2006. Moreover, this means the absence of the other type of convergence, which provides grounds for positive verification of the first study hypothesis.

In order to verify the other hypothesis, the Polish provinces were divided into three groups with different levels of economic development. The amount of regional GDP per capita for 2006, expressed at current prices, referred to the similar index for the entire country was used as the criterion (in 2006 it amounted to PLN 27,799).

The first group included the provinces in which the regional production output per capita was at least 95% of the national GDP *per capita*. These are the provinces of: Mazovia (159.65%), Lower Silesia (106.98%), Silesia (106.11%), Wielkopolska (105.32%) and Pomerania (98.47%).

The second group comprises 2 provinces with a GDP per capita ranging from 80% to 95% of the national level: The provinces of Łódź (91.81%), West Pomerania (91.1%), Lubuskie (88.97%), Kuyavia and Pomerania (87.42%), Małopolska (86.73%) and Opole (80.39%).

Group 3 comprises the provinces in which the value of regional production output per capita is below 80% of the national average. Those are the other provinces, referred to as "the eastern wall": Świętokrzyskie (76.01%), Warmia and Mazury (75.56%), Podlasie (73.37%), Podkarpacie (68.43%) and Lublin (67.55%).

In order to check whether the growing regional disparity between the levels of economic development in 1995–2006 can be explained by a different urbanisation index in different groups of provinces, an analysis of their urban settlement network development was carried out.

Diversity of the urbanisation level in regions of Poland

One of the measures used to describe the progress of urbanisation processes in an area is an urbanisation index. It is calculated as the percentage ratio of the urban population to the total population in the area. Its values in individual provinces are shown in Table 1.

Considering the diversity of the index values, one may notice a positive relationship between the level of economic development in groups of regions and the level of their urbanisation. The percentage of urban population was the highest in the best developed regions and the decrease in the index is accompanied by the regional production output per capita. It is particularly

Table 1

Urbanisation index in selected groups of provinces in Poland in 2006

Group	Portion (%) or urban population in the total population
Group 1	68.04
Group 2	59.28
Group 3	49.07
Poland	61.30

Source: Cities in figures, 2005–2006, http://www.stat.gov.pl/gus/45_731_PLK_HTML.htm. Calculations made by the authors.

noteworthy that three provinces with the lowest urbanisation indexes – Podkarpacie (urbanisation index = 40.5%), Świętokrzyskie (45.3%) and Lublin (46.6%) are, at the same time, the regions with the lowest GDP per capita values in the entire country, whereas those with the highest value of the index – Silesia (78.5%) and Lower Silesia (70.9%) are the best-developed regions.

The data should be supplemented with information about the structure of cities, depending on their population. Considering the stimulating effect of cities on regional development, it is the most favourable if a relatively large part of all the urban centres are large cities, with a population of over 200 thousand, because their impact on the region is the greatest and the strongest.

Table 2 shows that the provinces in group I have the best structure of cities. Large cities account for over 5% of all the urban centres. Additionally, as many as 9 out of the 17 Polish cities with a population in excess of 200 thousand lie in the five provinces. But the lower the GDP level, the more the structure favoured the increased share of small cities with a population smaller than 50 thousand. The portion of large and medium-sized cities in the poorest provinces is very small, whereas small cities account for nearly 90% of all the urban

Table 2

Structure (%) of the city size in the groups of provinces (as of 31.12.2006)

Group	Small cities (less than 20 thousand)		Medium-sized cities (20 to 100 thousand)	Big cities	
	total	including 5 thousand and smaller		total	including 200 thousand and bigger
Group 1	71.61	29.90	22.86	5.53	2.26
Group 2	79.66	35.86	16.55	3.79	1.72
Group 3	76.62	38.81	20.40	2.99	1.49
Poland	75.37	33.86	20.25	4.39	1.91

Source: Cities in figures, 2005–2006, http://www.stat.gov.pl/gus/45_731_PLK_HTML.htm. Calculations made by the authors.

centres. There are only three large cities – Kielce, Lublin and Białystok – in the five poorest provinces. It is symptomatic that there is no medium-sized city (with a population of over 50 thousand) in the provinces. It indicates extreme weakness of the urban network in the regions and their dependence on the centres – their capitals.

It is relatively frequent that the city density index is used to describe the development of the urban settlement network. Its value shows how large is the part of an area per one city. The index values in the three province groups are shown in Table 3.

As in the previous case, it should be said that the regions included in the first group: Mazovia, Upper and Lower Silesia, Great Poland and Pomerania, are the most developed in terms of their urban settlement network. An analysis of the city size distribution in the group of provinces yields an image of regions where urbanisation processes clearly and positively affect economic development. The poorest region, where the average city density is twice as low as that in the provinces in group I, are on the opposite extreme. Comparison of two provinces the city tells a lot: the area per city in the province of Silesia is equal to 174 km^2 whereas such an area in the province of Lublin is equal to 612 km^2. Again, these provinces are at extreme ends of the spectrum of their economic development.

Table 3

City density index in Poland in 2006

Group	Provincial area per city, km^2
Group 1	291.40
Group 2	336.78
Group 3	492.80
Poland	362.85

Source: Cities in figures, 2005–2006, http://www.stat.gov.pl/gus/45_731_PLK_HTML.htm. Calculations made by the authors.

These studies show that economic development of Polish regions is at least partly affected by the progress of urbanisation processes in provinces. Therefore, this also allows for positive verification of the other of the study hypotheses.

Summary and conclusions

The analyses in this study corroborate the thesis that despite considerable Community funds which have been allocated with the aim of equalising the level of economic development of different regions, the disparities between

regional economic development levels have grown during the past dozen or so years. The provinces with the highest level of regional GDP also achieved a higher growth rate of production output per capita during the following 11 years.

Among the best developed regions in Poland are the provinces of Mazovia, Silesia, Lower Silesia, Wielkopolska, Pomerania. The regions situated in the centre along the north-south axis and along the western border of Poland (the provinces of Kuyavia-Pomerania, Łódź, Małopolska, Opole, Lubuskie and West Pomerania) are a little less-developed than the national average. The five regions situated in the east of the country (the provinces of Warmia and Mazury, Podlasie, Lublin, Podkarpacie and Świętokrzyskie) are clearly the least economically developed of all the regions in Poland.

No regional convergence, either β or σ type, can be observed during the analysed period, which corroborates the first of the study hypotheses. This also indirectly corroborates the thesis of ineffectiveness of regional policy tools applied in order to equalise the level of regional development.

In order to verify the other study hypothesis, an analysis of the development of the urban settlement network was carried out in groups of provinces isolated with respect to the level of economic development. It found that the level of urbanisation decreases from the south northwards and from the west eastwards. These results suggest the following conclusions.

1. There is a clear relationship between the level of economic development of provinces and the progress of urbanisation processes in those provinces. Regions with the highest values of production output per capita (those were the regions with the highest production output growth rate) were also among the best urbanised. The lower the development of the urban settlement network, the lower the level of economic development.

Obviously, the urban network is not the only factor which affects the economic development of regions, but a model approach requires "isolation" of selected study areas in order to gain a fuller understanding of the relationship between them and to extrapolate future tendencies.

2. These facts corroborate the New Economic Geography. The processes of economic development are diverse in various regions, with the processes of urbanisation being one of its reasons. Cities, their surroundings and agglomeration benefits which they generate, create favourable conditions for conducting economic activities, especially in high-tech industries. Therefore, as a knowledge-based economy develops in Poland, one may expect further diversification of the level of regional economic development, with the provinces with the best-developed urban centre network benefiting from the process. It is in those urban regions that the most innovative and technologically advanced and, consequently, competitive and profitable production industries. On the other

hand, production of standardised, low-processed goods will be transferred to poorer regions where wages are lower.

3. City size structure and their distribution is a stable element of socioeconomic potential of regions, so it is very likely that processes of regional development will be further diversified. At the same time, relative stability of urbanisation processes means that any actions aimed at forced equalisation of economic development level may face significant obstacles. This makes the justifiability and effectiveness of such goals of economic policy debatable.

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INFLUENCE OF THE FORM OF BANK SPONSORING APPLIED ON THE DECISIONS OF ENTREPRENEURS CONCERNING THEIR CHOICE OF THE BANK

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K e y w o r d s: bank sponsoring, owners of small enterprises, choice of the bank.

A b s t r a c t

Banks in Poland, through various forms of sponsoring, try to attract friendly attitudes of the groups of current and potential clients that are ready to accept those activities less or more clearly. The results of own studies encompassing 370 owners of micro and small enterprises from Warmińsko-Mazurskie voivodship indicate that entrepreneurs accept in a positive, although highly diversified, way the allocation of a part of the banks' profits on sponsoring entities or projects from the social, sports, cultural-scientific as well as economic domains.

WPŁYW FORMY STOSOWANEGO SPONSORINGU BANKOWEGO NA DECYZJE PRZEDSIĘBIORCÓW DOTYCZĄCE WYBORU BANKU

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S ł o w a k l u c z o w e: sponsoring bankowy, właściciele małych przedsiębiorstw, wybór banku.

A b s t r a k t

Banki w Polsce przez różne rodzaje sponsoringu starają się pozyskiwać przychylność grup aktualnych i potencjalnych klientów, które tę działalność mniej lub bardziej jednoznacznie skłonne są akceptować. Wyniki badań własnych przeprowadzonych wśród 370 właścicieli małych i mikrofirm z woj. warmińsko-mazurskiego wskazują, że przedsiębiorcy pozytywnie, acz niezwykle zróżnicowanie, przyjmują przeznaczanie przez banki części swoich zysków na sponsorowanie podmiotów i przedsięwzięć ze sfery socjalnej, sportowej, kulturalno-naukowej, a także gospodarczej.

Introduction

Philip Kotler introduced the postulate of sponsoring analysis in the categories of costs or investments to scientific circulation. In this approach it can be assumed that if such or other involvement of the sponsor to the benefit of the sponsored does not lead to increased sales of goodwill of the sponsor than for him it represents a cost. On the other hand, "companies that want such an expense to be an investment – Kotler says – must be much more careful in taking the decisions on what will be sponsored" (KOTLER 2004, p. 179). Other works on those issues highlight the necessity of continual well-considered care to maintain the logical relation between the goals of the sponsoring and the character of the activity sponsored. The more effectively "sponsoring contributes to achievement of the goals of the sponsor, the sponsored and the participants in the event that was delivered" (*Komunikowanie się w biznesie* 2002, p. 147), the more honestly the situation before undertaking the sponsoring activity, during its implementation and after completing it is analyzed. According to the contemporary economic or business knowledge, sponsoring is one of the important components in communication of the sponsor with a specific group of actual or potential clients, the social environment, public opinion, and it also happens that it is seen as a positive instrument of influence of own enterprise community, its shareholders and other targets.

As known, the key of that activity is building specific mental associations thanks to which the positive image of the sponsored is passed on the sponsor. De facto it is a "marketing activity promoting the company, service or product in association with an image or prestige, which is to give specific benefits to the sponsor, not necessarily in short term" (*Skuteczne techniki PR* 2005, p. 134).

Objective and method of studies

Studies, a fragment of which is presented in this paper, encompassed 370 owners of micro and small enterprises conducting their activities in Warmińsko-Mazurskie voivodship. The studies were conducted during the years 2007–2008 and they were focused mainly on finding an answer to the question of what importance the owners of micro and small enterprises allocate to individual characteristics of the bank to which they would like to entrust financial servicing of their businesses. Bank activities in the field of sponsoring represented one of such characteristics. An attempt was also undertaken to assure representative character of the sample but for many reasons that could not be achieved. The statistics show that during conducting the studies over 54,000 micro-enterprises conducted active operations in the

region (although the number of such officially registered enterprises was twice higher). It should also be added that a significant proportion of their owners (for reasons known to them only) refused participating in the studies. Nevertheless, the number of enterprises from which information was obtained as well as their spatial diversification (over 100 localities) offer significant premises for formulation of conclusions concerning their owners from the region of Warmia and Mazury.

In the fragment of the studies presented in this paper an attempt was taken at determining the influence of the form of bank sponsoring applied on the decisions of entrepreneurs concerning their choice of the bank. The objective of the study formulated in that way represented just a general attempt at gaining insight into profitability of bank sponsoring through a survey of motivations (preferences) determining the positive or negative attitudes of the owners of small and medium enterprises to the bank depending on their awareness of the type of the sponsoring activities of the bank, The traditional, or even already classical, survey method testing the opinions of respondents on the base of their responses to the questions included in the questionnaire of the interview containing mainly closed questions was applied. As concerns the type of sponsoring, among different criteria applied for classifying it (*Komunikowanie się w biznesie* 2002, p. 149) the ones considered were mainly those that indicate the areas of investments made by the bank, that is certain general characteristics of the activity sponsored[1]. It is understandable that the attempt at assessing the effectiveness of sponsoring through that type of survey has its limitations. Analysis of bank sponsoring activities effectiveness would require applying another method for data gathering measuring, e.g. respondents acceptance (sympathy to) the bank before and after implementation of sponsoring activities by it, the length of their duration (Carry-Over, Time-Lag Effect) and other components influencing the effectiveness of that process.

The assumption was made that the attitude of the owners of micro and small enterprises to the method of spending by a given financial institution of a part of its profit generated from them as the customers (piggyback-trading) is the only criterion on which they can base their decisions concerning the choice of the bank for providing financial services to their enterprises. The set of nine different social objectives to achievement of which the bank could allocate a part of its profits was included in the interview questionnaire. The respondents were asked to indicate whether sponsoring of a given task, issue by the bank would encourage or discourage them to commission the financial servicing of their enterprises to it or whether it would be of no importance for them.

[1] Those areas of bank involvement can also be referred to as the "sponsoring areas" (Rozwadowska 2002, p. 247).

Obtaining the attitude of the covered population as concerns the method of using a part of its profit by the bank can be useful in taking the decisions on revealing or propagating by the banks their contributions to such or other institutions, causes or achievement of specified objectives.

Bank sponsoring

Typologies concerning sponsoring are developed on the base of various criteria. The rule, however, is the basic division into the sponsors and the sponsored and in that earlier group banks as a sector have been included in almost every classification recently. It does not mean nevertheless, that all the organizations included in that sector use sponsoring in their marketing undertakings as an instrument always and everywhere, as, although banks operating in the area of Poland are the institutions operating within the limits of the banking law, but their status program profiles, organizational structures and scopes of activities are not always identical. They can be analyzed according to all possible criteria identifying banks according to, e.g. the volume of assets, legal form (cooperative, State-owned, in the form of joint stock companies) or type of activities (universal, retail, mortgage, automotive, investment). There is no doubt that all of them attempt at presenting themselves to the social environment from their best aide and engage defined funds in creating their positive image, their pro-social function, mission, etc. The same is done, up to their ability and capacity also by semi-banking institutions, e.g. SKOK (Cooperative Savings-Credit Funds). Generally, all those business entities start using sponsoring, although it is a relatively new marketing tool, and the current fiscal policy and legal regulations are not excessively encouraging development of that form of communication between the enterprise and its target social environment. In the national scale that is indicated by the studies conducted by the foundation Commitment To Europe Arts Business, which were carried out from July through December 2008 on the base of the questionnaire distributed to 500 enterprises that formed a representative group of business entities operating in Poland. Those studies indicate that as much as 72% of the respondents considered the current fiscal policy concerning sponsoring unsatisfactory and 40% of the respondents believed that lack of clarity in juridical issues discouraged applying it[2]. Although in many legal acts numerous references to sponsoring can be found, in fact it remains the "unnamed contract" that is not regulated in the Civil

[2] Commitment to Europe, Arts & Business, Report from quantitative studies on sponsoring of culture and arts in Poland, http://cte.org.pl (access: 30.10.2009).

Code. "The situation is not changed by the fact that the notion has been defined in several legal acts as the definition in itself is not enough to construct on its base the »named« sponsoring contract[3]. It is possible that if the shortcomings of the legal definitions of sponsoring" had been less pronounced, then in practice, the phenomenon of sponsoring would have developed much more extensively than so far. Banks operating in Poland, as well as in the entire European Union economy, quite quickly assumed and are implementing the sponsoring based concept of marketing (KOLASA 2008, pp. 88–95). It composes less or more harmoniously with the entire range of promotional techniques usually called the "marketing mix". In bank practice focusing mainly on sales of services its fifth component, that is "personnel" with its main slogan "the attitude is the base" (referring to the employees) is exposed particularly strongly in the daily activities. With the passage of time the set of factors specified here was complemented by other factors creating in that way the complex of forms, methods and techniques through which banking institutions aim at achievement of their goals. Currently, sponsoring is included in that system increasingly commonly. Some specialists on the subject refer to it as the "indirect advertising" as it is known that "both advertising and sponsoring represent the tools of communication of the advertiser (sponsor) with the specific group of the targets. The different technique of that communication, however, is the difference. Advertising usually means information on specific goods, on their values and possibilities of acquiring targeted at the clients aiming at encouraging them to make the purchase. The advertising usually is planned for immediate effect. Sponsoring, in the other hand, represents a more subtle form of communication, usually with a longer time perspective in mind (disregarding current, individual undertakings the point of it is – according to some experts – to provide at minimum the 3-year average period of influence)[4]. Sponsoring, in prima facie approach, does not impose or recommend anything while advertising represents expressive promotion of a specific product or service. The aim of sponsoring is the communication of the sponsor with its clients through the sponsored. As a consequence, there are differences between advertising and sponsoring, between sponsoring and "product placement" (See: CZARNECKI 2003), "product publicity" or "product design" (STECKI 2004, pp. 273–284).

Sponsoring seems to be related the closest to the Public Relations, serving specific positive propaganda of the bank in its relations with the society. And

[3] Examples of ambiguities in definitions contained in various Acts can be found at: http://mojafirma.infor.pl/poradniki/287,1542., Wszystko-o-umowach-sponsoringu.html (access: 10.10.2009).

[4] See: Warszawska Szkoła Reklamy, http://szkołlareklamy.pl/section-viewarticle-215-str-naj-w2.html (access: 10.10.2009).

the measures aiming at achievement of that goal include, among others usage of various tricks from the domain of the so-called CSR (Corporate Social Responsibility). Banks try presenting themselves as institutions that are friendly not only to their customers but to almost all stakeholders and communities. Motivated by those considerations they allocate certain funds or material resources to support of charitable actions (corporate giving). Such and similar actions result in undoubtedly positive perception of the bank among a specific social group, promotes its image indirectly although it not always represents sponsoring, as sponsoring means providing specified resources to the disposal by the sponsored subject in exchange for that subject providing significant services to the sponsor. Banks finance a given project, person or company in most cases in exchange for maintaining or improving their position, improving or changing their image, increasing identification of their logo or name and "associating it with noble activities while the recipient has no negative impression of being manipulated" (GRZYWACZ 2006, p. 179). Considering the fact that in modern bank marketing promotion is sometimes replaced by communication with the client (LACHOWSKI 2005, p. 20), it can be assumed that the techniques of sponsoring also complement organization of the bank work referred to as the CRM[5] as those activities represent not only informative but also persuasive communication. This means that they are to promote the knowledge about the sponsor and influence a change in behavior, eliminate or strengthen through the sponsored specific relations or attitudes of social groups that for some reasons are within the circle of the sponsoring interests (JOWETT, O'DONNELL 1986, p. 16 and following).

Results of own studies

The information obtained during the study indicates that sponsoring of certain social activities by the bank discourages the studied population from entrusting it the financial servicing of their companies while on the other hand supporting other causes – more or less – encourages them to establish relations with that bank. The data provided in table 1 indicate that purchase of medical equipment for hospitals or subsidizing an orphanage by the sponsoring banks was received the most favorably. Allocation by the bank of a part of its profit to one or the other of those activities would encourage the respondents to commission financial services of their companies to it. It can be said that the entrepreneurs covered, similar to the majority of the Polish society, appreciate highly the activities supportive to health and existence of the children deprived

[5] CRM is the abbreviation for the Customer Relationship Management (GRZYWACZ 2006, p. 188).

of the parental care. Banks investing in those areas (in the form of sponsoring or charitable activity) play on emotions and at a usually low expense gain the opinion of institutions that voluntarily support those in need. Such altruistic attitudes are still high in the rankings of values appreciated by the Polish society. As a result, prestige and positive image of the company among the clients is built[6].

Table 1

Level of bank acceptance depending on the goal it sponsors (in %)

Type of goal, cause supported by the bank*	Encouraging	Discouraging	Insignificant
Purchase of medical equipment for a hospital	83.8	4.1	12.1
Subsidizing of an orphanage	83.5	3.8	12.7
Popularization of culture and arts	67.6	5.1	27.3
Support to a scientific institution (e.g. a university)	60.3	5.9	33.8
Building a shelter for the homeless	60.0	7.8	32.2
Support to an entrepreneur building a new plant	50.5	17.8	31.7
Subsidizing activities of a sports club	43.2	14.3	42.5
Construction/enlargement of a church/priory	15.1	41.6	43.3
Activity of a political party	3.8	71.4	24.8

* ranked according to the percentage of "encouraging" responses
Source: results of own studies.

Support to popularization of culture and art ranked next as concerns the number of respondents (67.6%) who considered it a strength of the Bank and although for around 27% of the respondents such expenditures were of no importance in choosing the bank, only 5% considered it a factor with negative influence on their choice of establishing the relation with it. Considering, among others, the preferences of clients expressed in that way and almost unlimited demand for support, mainly financial, of almost all the entities operating in the field of culture and arts, banks do not avoid sponsoring in that field of human activities. As any type of sponsoring it is also and maybe even first of all, to offer some measurable benefits. With that in mind, various conditions are formulated on making the sponsorship contracts, which highlight, among others, the subject adequacy of the partners, i.e. there must be such a link in contents between the brand of the sponsor and the sponsored

[6] That fact was signaled in the publication: Badania ARC Rynek i Opinia "Sponsoring Monitor 99" – ogólnopolski sondaż na reprezentatywnej próbie $n = 1265$ mieszkańców miasta w wieku 15–50 lat, zrealizowany od 8 do 19 września 1999 pod patronatem Ogólnopolskiego Forum Sponsoringu, see: http://marketing.wiedza.diaboli.pl/rola-i-rozwój-sponsoringu/ (access: 15.10.2009).

project, which can be spontaneously noticed by an uninvolved observer. The contracts also contain provisions concerning media coverage, continuation, integration, neutrality or control of effects.

In the opinion of roughly 60.3% of the respondents the bank that supports a scientific institution (e.g. a university), research, publications, etc. deserves choosing. Generally speaking, sponsoring of science seems to be a particularly rewarding field for allocation of bank profits. While sponsoring involvement of banks in science and education should be no surprise as in free market economy also in those fields everything generally is a market product, subsidizing construction of a shelter for the homeless does not seem to be a kind of goods that the banks should be particularly interested in purchasing. Surprisingly, it was found out that only a minimally smaller percentage of respondents (60%) decided that they appreciate equally highly that type of bank sponsoring that in the questionnaire was represented by subsidizing construction of the shelter for the homeless. It is well known that banks apply diversified classifications of their clients, position them in different way and segment the market of current and potential buyers of their services (BUSCHGEN 1997, pp. 79–83). The homeless, the unemployed and the poor clients have been and are considered the target group in the strategy of probably none of the banks (for sure not a commercial one) as they are neither a lucrative nor a promising segment in the market of banking services. If, however, some banks undertake such or similar aid activities they should rather be considered a manifestation of charity and not an example of currently fashionable so-called social sponsoring[7]. The term applies to the situation when even if the control of economic or psychographic effects gives a negative result the compensating values of a different type can be obtained such as, e.g. cognitive (experience), emotional (satisfaction), public appreciation of the assistance in the social domain, etc.[8]

Quite clear acceptance of such activities by the studied population of owners of micro and small enterprises proves relatively high level of understanding (at least in declarations) for that type of "bank generosity". It is worth considering, however, that for more or less every third person it does not matter whether the bank sponsors science or construction of the shelter for the homeless for their decision concerning the choice of the bank to provide services to their own businesses.

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[7] In the literature and practice of social sponsoring (with multiple meanings of that term) it includes allocation of funds to the three domains of socio-economic life, i.e. health, science and education as well as ecology and environment protection. See: T. TEMME, Besonderheiten des Sozialsponsoring, http://mel.fh-osnabrueck.de/~temme/tutor/sponsor/sozial.html (access: 25.10.2009).

[8] Sponsoring stops being the machine for generating financial profits when, e.g. the sponsor establishes the relation with the sponsored subjects of variable reputation, e.g. scandals related sportsmen applying doping (HAMANN et al. 2007, pp. 17–18).

Bank involvement in the form of sponsoring construction of a new plant would be the activity in the field of socio-economic domain highly appreciated among the respondents. Even the most global banks use their potential to participate in local purely economic or public-community projects on the base of sponsoring[9]. Additionally, numerous marketing studies indicate an increase in demand for products of companies that support the initiatives "dear to the heart" of the community in which such companies operate (GRZYBEK, WOŹNIAK 2007, p. 22). In the here reported studies, although every second respondent would be encouraged to cooperate with the bank supporting the entrepreneur constructing a new plant, almost 18% would consider such a situation as contraindication to establishing closer relation with such a bank.

In the studies reported here sports sponsoring received relatively low appreciation among the respondents. The studies indicate that few respondents (43.2%) would be encouraged to commission financial services for their companies to the bank sponsoring activities of a sports club. On the other hand, support of that type is insignificant to almost the same percentage of the respondents (42.5%) as those that would be encouraged to collaborate with the bank by it. That result is slightly contradictory to the (silently) assumed hypothesis concerning the prominent role of sponsoring sports in reaching the hearts and minds of the clients somehow "through the back door".

According to marketing experts, companies sponsoring sports gain an immense opportunity for promoting both the brand and the company itself. Sports events, clubs, teams and individual sportspeople represent typical areas of sponsoring. They allow reaching not only the current but also the potential clients, also during their free time. Sponsoring of sport events allows avoiding the crowd of various imposing promotions that the given communities deal with in daily life. It is understandable that individual sport events attract different groups of fans with different demographic, socio-economic and other profiles. Sponsoring of a sports club is mainly the name of the location; it is the town or the region that is reference to the local solidarity and a kind of identification with the entire local community (NICHOLLS et al. 1999, pp. 365–369). The more famous the given sports club is the easier it becomes for the banks sponsoring it to overcome the antinomy of valueś local-global' that the banks usually know well. Nevertheless, aiming at the maximum use of all the available resources and means for achievement of the highest possible profit under specific conditions is a characteristic of contemporary commercial

[9] Bank Zachodni WBK S.A. as of 1991 has the highest membership status (Principal Member) in the VISA organization, and as of 1996 in the Master Card organization. That Bank, based on several years of experience, offers collaboration in sponsoring other Polish banks of that organization. See: *Sponsoring w organizacjach płatniczych*, http://www.obsługabankow.bzwbk.pl/55071 (access: 28.10.2009).

banking, and probably for that reason sponsoring of a small, local sports club may be unprofitable to the banks. Also, for numerous reasons, it may not deserve appreciation among the current and the future clients.

Straight forward political sponsoring enjoyed the lowest popularity in the population studied. Only 3.8% of all the respondents would be encouraged to entrust collective services to the bank that sponsors a political party. Such sponsoring was considered unimportant by almost 25% of the respondents while for 71.4% it would be the signal to keep far away from such a bank. Similarly, only 15.1% of the respondents would be encouraged by construction or extension of a church or a priory co-financed by a bank to open their banking account in that bank.

The results of studies also indicate that opinions of owners concerning the here presented issue are diversified depending on the parameters of their businesses and socio-demographic characteristics of the entrepreneurs. From among the set of characteristics duration of company operation (its operation by the current owner), employment, composition of employment, business type, geographic coverage with operations, financial results, location of the business and use of credit were used for the business segment analyzed here. As concerns the results obtained it is worth mentioning here for example those concerning simultaneous classification of the respondents according to the geographic coverage of their businesses and opinions concerning individual activities sponsored by the bank.

In the question concerning the geographic coverage aimed at determining the area within which the majority of goods products or services is sold. The local, regional, national and international coverage was identified. That characteristic correlates in a statistically significant was ($\chi^2 = 12.728$; $df = 5$; $p < 0.048$) with the perception concerning sponsoring of a sports club by the bank as it is so that the wider the coverage area of the company is the rarer the owner of the business accepts such spending of a part of the profit by the bank. This is understandable because, as it has already been pointed out, sponsoring of a club represents first of all its location of domicile. During "global" operation thè local' context can often represent a serious obstacle, so when it is not in the interest of the company to identify itself with the local community but it focuses its operation on the national or foreign buyers and partners, investing in promotion of the company domicile as a consequence must loose on importance (See: DOMAŃSKI 2007).

Interesting results were also obtained as a result of simultaneous classification of the respondents according to the financial result generated by their enterprises and the activities sponsored by the bank. The vast majority of the respondents (70.8%) informed that the business generated profit, 24.9% that it generated neither profit not loss and only 4.3% that the business generated losses. Entrepreneurs, whose businesses generated profits were more positive

in their perception of the bank spending a part of its profit in case of all the project types included in the questionnaire than the entrepreneurs that generated neither profit nor loss. It can be said that entrepreneurs generating better results have more understanding for involvement of the banks in various types of sponsoring activities.

Conclusion

1. Banks in Poland take the effort to gain sympathy of the groups of current and potential clients that are more or less ready to accept sponsoring activities through various types of such activities. Sponsoring in bank version, although frequently integrated with other instruments of communication (including charity of philanthropy) represents an institution offering the sponsoring institutions measurable benefits (POLAKOWSKA-KUJAWA, KUJAWA 1994, p. 27 and following).

2. Studied owners of micro and small enterprises receive allocation by the bank of a part of its profits to sponsoring entities and projects in the social, sports, cultural-scientific as well as economic domains in a positive, although highly diversified, way. Sponsoring of church facilities and involvement of banks in financing of political parties receiver relatively low levels of acceptance in almost all groups of the respondents. That type of sponsoring would represent the weakest motivation of the respondents in choosing the bank to provide financial services to their enterprises.

3. It can be assumed that outlays of banks on sponsoring of sport activities will be increasing. Larger outlays for that activity generally seem more effective than advertising spots on television, the Internet or leaflets distributed by mail, etc. The costs of advertising and prices of goods or advertised services influence each other (KARASIEWICZ 1997, p. 30 and following), but even for the banks it is increasingly difficult nowadays to attract attention of the targets by various traditional forms of advertising with the expectation that they could be helpful in gaining new clients through them. For sure, among other activities, support to sport activities by banks could be the antidote to that problem in the future[10], although, as the studies reported here indicate, the effects of that involvement so far measured by the sympathy of clients to the bank sponsoring sports should be considered rather mediocre.

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[10] Before the outbreak of the current financial crisis the US banks were considered the largest single sponsor of sports (CONRAD 2007, p. 20).

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THE IMPORTANCE OF LOAN FOUNDS SYSTEM FOR PROCESS OF FINANCING MICRO AND SMALL SIZED ENTERPRISES ACTIVITY

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K e y w o r d s: micro and small enterprises, sources of financing, loan funds.

A b s t r a c t

Limited access to external sources of financing is one of the basic barriers to development of micro and small enterprises. This is the cause why the majority of entities finance their activities using mainly their own funds. Development of the system of loan funds represents a form of supporting enterprises in access to capital.

The article aims at presenting the role and importance of loan funds as the institutions supporting development of small enterprises as well as defining the position of the loan system in the process of financing the operations of micro and small enterprises. The characteristics of funds operating in Poland and the analysis of their activities were presented. The statistical papers prepared by the Polish Association of Loan Funds provided the source of empirical data.

During the period covered by the study increasing activity of the funds was recorded. The observed trends found confirmation in the increase of capitalization of the entities studied as well as in the increase in the number and value of originated loans.

Currently just a few entrepreneurs use that form of financing and the reasons are the uneven geographic distribution of funds, low level of capitalization and ineffective information policies targeted at the community of entrepreneurs.

ZNACZENIE FUNDUSZY POŻYCZKOWYCH W PROCESIE FINANSOWANIA DZIAŁALNOŚCI MAŁYCH ORAZ MIKROPRZEDSIĘBIORSTW

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S ł o w a k l u c z o w e: małe i mikroprzedsiębiorstwa, źródła finansowania, fundusze pożyczkowe.

Abstrakt

Ograniczona dostępność zewnętrznych źródeł finansowania jest jedną z podstawowych barier rozwoju małych i mikroprzedsiębiorstw. Powoduje to, że większość podmiotów finansuje swoją działalność głównie z wykorzystaniem środków własnych. Formą wsparcia firm w dostępie do kapitału jest rozwój systemu funduszy pożyczkowych.

Celem artykułu było ukazanie roli i znaczenia funduszy pożyczkowych jako instytucji wspierających rozwój drobnej przedsiębiorczości oraz określenie miejsca systemu pożyczkowego w procesie finansowania działalności małych i mikroprzedsiębiorstw. Przedstawiono charakterystykę funduszy działających w Polsce oraz przeanalizowano ich działalność. Źródłem danych empirycznych były opracowania statystyczne Polskiego Stowarzyszenia Funduszy Pożyczkowych.

W badanym okresie odnotowano rosnącą aktywność funduszy. Obserwowane tendencje znalazły potwierdzenie we wzroście kapitalizacji badanych jednostek oraz wzroście liczby i wartości udzielonych pożyczek.

Obecnie niewielka liczba przedsiębiorców korzysta z tej formy finansowania, czego przyczyną jest nierównomierne rozmieszczenie geograficzne funduszy, niski poziom kapitalizacji oraz nieefektywna polityka informacyjna skierowana do środowiska przedsiębiorców.

Introduction

Availability of financial capital sources and instruments is one of the basic factors determining efficient operation and development of the enterprise. Those issues concern both current (operational) field of business activity and implementation of investment projects. Dynamically developing financial market in Poland offers entrepreneurs increasingly wide possibilities of obtaining funds. There are instruments based on own capital (issuance of stocks, venture capital funds, business angels) and external capital such as bank loans, debt securities, leasing, factoring, loans from non-banking sources or aid funds flowing from international institutions and organizations.

The issue of financing the activities, and first of all of obtaining the necessary capital, is particularly problematic in the sector of micro and small enterprises. That group of businesses, as opposed to the large market entities, encounters numerous barriers limiting, and frequently even making impossible, conducting and developing the business. Limited access to external sources of financing is one of the major barriers. That unfavorable situation is caused, among others, by high requirements formulated by capital providers as concerns the credit history, level of own contribution, required securities or the scope of necessary credit documentation. Lack of experience of small entrepreneurs in contacts with financial institutions as well as low potential for internal accumulation of capital hindering the process of self financing of the enterprise and its profitability are issues that are also of importance. Those obstacles cause that the external capital is difficult to access and expensive for small businesses.

Considering the above barriers, supporting small businesses in access to the sources of external capital is highly important. Development of the system of loan funds the task for which is to provide capital support to small businesses represents one of the solutions.

The main goal of the paper was to define the role and importance of loan funds in the process of financing micro and small enterprises in Poland. The nature and specificity of operation of such institutions as well as the advantages of that source of capital were presented. Analysis and assessment of the lending activities of the funds was the subject of particular interest.

Methodology of studies

The study encompassed loan funds operating in Poland during the years 2004-2008. The analysis covered such aspects of operations of the funds as the level of capitalization and sources of origin lf lending funds. Additionally the study covered the number, value and structure of originated loans. The statistical papers prepared by the Polish Association of Loan Funds provided the source of numeric data.

Characteristic of the loan funds system in Poland

Loan funds have operated in Poland for a relatively short time. The initial entities of that type emerged during the early 1990s. Programs of financial support to small and medium enterprises as well as the unemployed undertaking own business activities gave the impulse for establishing them. An example here could be the Government program "Project of Development of Small Business TOR#10", within the frameworks of which 34 Enterprise Development Funds were established (BARTKOWIAK, FLEJTERSKI, PLUSKOTA 2006, p. 58). The current system consists of 65 institutions operating 71 funds.

Loan funds are not banking sector institutions. Capital support of enterprises by providing loans to them is the main goal of their operations. The funds operate in different organizational-legal forms such as joint stock companies, limited liability companies, associations or foundations. They operate on the bases of the general law – the civil code and the code of commercial companies (*Kierunki rozwoju funduszy*... 2009, p. 6). The territorial scope of their lending activities is diversified. In this context the entities operating in national, regional and local scale are identified. This scope of operations is determined mainly by the amount of lending capital available to the individual funds.

The funds target their offer at the sector of micro and small enterprises mainly but also the individuals starting up their business activities (*Fundusze mają się dobrze*... 2006, p. 8). It is worth highlighting that the funds are entities grossly underappreciated by banks and other financial market institutions. Only a small percentage of funds focus their activities on funding medium and large enterprises.

The support from the funds is of short or medium term character. The period for which the funds are made available as a rule is not longer than 5 years (*Finanse małego przedsiębiorstwa*... 2009, p. 107). It is worth adding, however, that offering the entrepreneurs a grace period in paying off the loan installments is a commonly used practice. The amount of loan funds is also limited. In most cases it does not exceed several thousand zlotys. The loan funds obtained can be spent both on expenditures related to the operational activities of the enterprise and the investment projects funding.

The relatively low cost of capital is another characteristic of the funds. The interest rate depends on the level of the reference rate announced by the European Commission and the level of the margin, which usually does not exceed 3%. Its level is determined by the amount of funds applied for, loan maturity and the purpose of spending the funds and the risk related. The commission for originating the loan is also lower and the situation is frequent where there is no fee for acceptance and processing of the loan application and for the early payoff of the funds obtained. This results in a lower burden of debt servicing costs to the enterprise increasing at the same time its profitability and ability of self-financing.

Low requirements of funds concerning securities for funds lent also deserve attention. Obtaining a small amount of loan requires the enterprise to present the blank bill of exchange with the declaration only. Additionally, the funds offer the entrepreneurs a significant freedom of choice accepting both personal securities (e.g. civil guaranty or bill of exchange issued by individuals or legal entities) as well as collateral such as blocking the funds on banking account, mortgage, pledge or assignment (*Raport z ewaluacji*... 2008, p. 30). Mutual guaranties by entrepreneurs using services of a given fund are also commonly used. This causes that the loan is relatively easily available as an instrument for financing operations of the enterprises.

Higher accessibility of funds also results from absence of complicated and lengthy origination procedures. The scope of the required documentation is limited significantly which is exemplified by absence of the requirement of preparing the business plan, financial statements and other documents necessary for creditworthiness assessment. As a consequence the waiting time of the entrepreneur for access to the loan funds is shortened.

Development of the loan funds system, in addition to improving access to the external capital, also offers the entrepreneurs numerous other benefits. Among them the increased supply of capital sources and decreasing the financial costs should be mentioned. Using the services of the funds offers small entrepreneurs the ability of establishing the credit history necessary for cooperation with banks and other financial market entities. Also the experience gained in contacts with a financial institution is important. Additionally, funds make a number of services that are not of financial nature such as information, advisory and training services in conducting business activities, and in particular in financial management available. Support to development of small business manifests also through assistance in obtaining capital from other sources, e.g. banks (*Wspieranie rozwoju*... 2002).

Activities of loan funds in Poland during the years 2004–2008

As already mentioned, 71 funds operate in Poland. Currently an organized system of collaboration encompassing all the units does not exist. A significant proportion of the funds (53%), however, is associated in the National System of Services the mission of which is to support development of enterprise in key areas requiring state support. The associations associating the majority of the discussed entities also play an important role. They fulfill numerous functions of information, advisory, promotional and lobbying character. They also prepare reports of operation of the funds and disseminate the results of their operations. The Polish Association of Loan Funds is the entity assembling the largest number of loan funds.

The lending capital amount is the basic factor determining the scope of operations of the funds. The results of studies presenting the funds capitalization levels are represented in Figure 1.

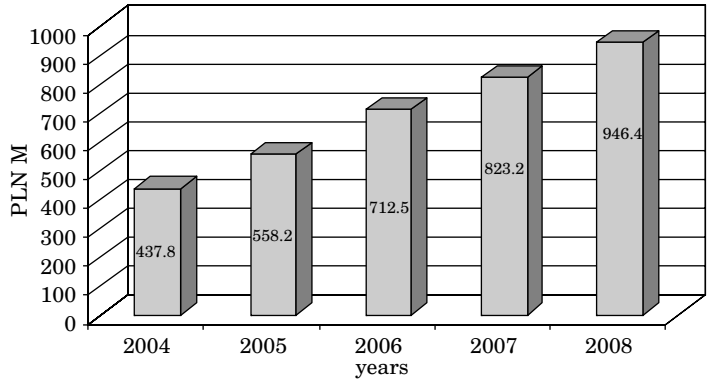

Fig. 1. Capitalization of loan funds in Poland during the years 2004–2008
Source: own work based on the data of the Polish Association of Loan Funds.

The data indicate dynamic development in funds capitalization. During the period covered it was 116.2% and the highest growth rates were recorded during the years 2005 and 2006 (27.5% and 27.6% respectively). The structure of loan capital sources was dominated by funds obtained within the frameworks of the Sectoral Operational Programme Increase of Competitiveness of Enterprises. As at the end of 2008, their share was as much as 36.1%. Own funds made available by the institution operating the fund represented another major source of capital (24.5%). On the other hand the scope of funding the operations of loan funds from local government subsidies (6.2%), debt securities (loans, credit – 8.3%) and other sources were minor.

The level of polarization of the funds as concerns the capital in their possession attracts attention. Among the entities surveyed, as many as 38 had the loan capital valued at no more than 3 million zlotys. Only in case of 14 funds the level of capitalization exceeded 20 million zlotys. At the same time it should be highlighted that 5 largest entities had the capital of 378.6 million zlotys representing as much as 40% of the total capitalization of all funds covered by the study.

The number and value of originated loans is the measurable effect of the operations of loan funds. The results of studies in that aspect are presented in Table 1.

Table 1

Number and value of loans originated by loan funds during the years 2004–2008

Item	Year				
	2004	2005	2006	2007	2008
Number of originated loans	13 309	16 005	19 537	20 976	19 640
Value of originated loans (PLN M)	204.4	240.8	370.6	417.5	438.4
Value of loan assets (PLN M)	266.7	340.6	482.1	597.8	705.8

Source: own work based on the data of the Polish Association of Loan Funds.

The period covered was characterized by increasing activity of funds. During the years 2004–2008 they originated 89.500 loans representing the total value of 1.67 billion zlotys. The highest growth rate in the number of originated loans (47.6%) was recorded in 2005. That was the period during which the funds presented the highest activity in obtaining loan capital, which allowed them a significant increase in the scope of services provided. Similar trends were recorded as concerns the value of originated loans and the value of active loans.

The structure of originated loans considering the amounts of funds originated was another aspect of loan funds operation that was subject to analysis. The results are presented in Figure 2.

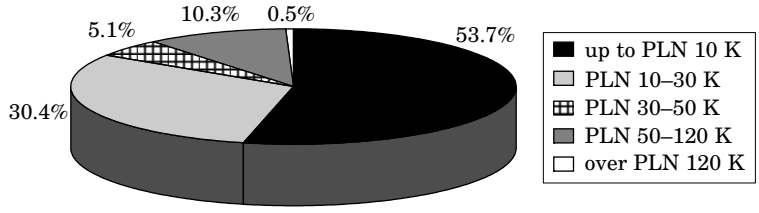

Fig. 2. Structure of originated loans according to the structure of originated funds (as at 31.12.2008)
Source: own work based on the data of the Polish Association of Loan Funds.

The results of that analysis indicate clearly that the loan from a fund was not an instrument for obtaining significant funds. Its average value as at the end of 2008 was PLN 16 500 only and the share of instruments not exceeding PLN 10 000 was dominating. The loans exceeding PLN 120 000 and more had the lowest share in the total number of the loans originated. They were originated mainly by the funds with the highest level of capitalization.

The structure of loans according to the purpose of funds use was another important issue subjected to the analysis. The results are presented in Figure 3.

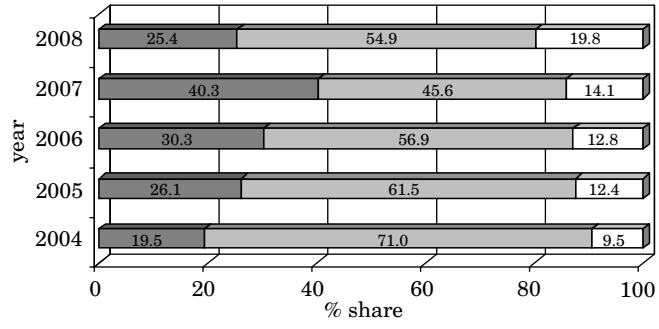

Fig. 3. Structure of originated loans according to the purpose of spending the loan funds during the years 2004–2008
Source: own work based on the data of the Polish Association of Loan Funds.

During the period covered, the dominating share of expenditures on implementation of the investment projects of the enterprises was recorded. To a lesser extent the entrepreneurs used the funds obtained for expenditures related to current activities such as purchase of materials and raw materials for production, payroll of employees or tax payments. The trends observed could indicate that services of loan funds were used mainly by enterprises at the initial stage of development that required significant capital outlays. Limited access to external sources of financing causes that the loan from

a fund is the only possibility of financing the necessary expenditures for the indicated group of businesses. During the period covered, an increase in the number of borrowers allocating the funds obtained to both investment and operational activities at the same time was also recorded.

The structure of loans considering the number of people employed by enterprises using that form of financing is the issue that requires special attention. This allows determining the direction of loan capital allocation considering the enterprise (borrower) size and the financial needs related to it. The results of that analysis are presented in Figure 4.

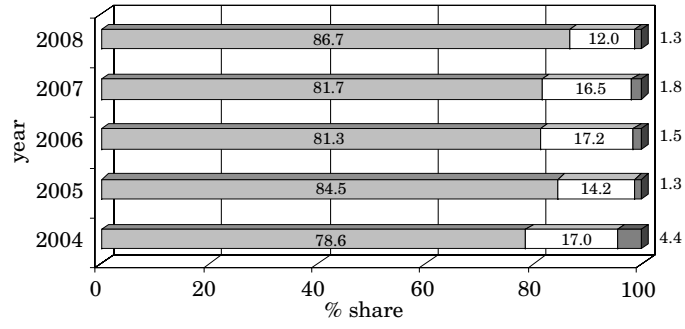

Fig. 4. Structure of originated loans according to the employment in the enterprise of the borrower during the years 2004–2008

Source: own work based on the data of the Polish Association of Loan Funds.

The results of studies indicated clearly that micro-enterprises were the main beneficiaries of loan funds. Small enterprises employing no more than 49 persons had a much lower share among the beneficiaries. The marginal share of entities classified as medium and large enterprises is also worth noticing. The limited capacity for satisfying relatively large financial needs of such entities through collaboration with a loan fund could be the reason for lack of interest in loans from such enterprises. The trends observed, however, confirm the appropriate direction of loan funds allocation.

The results of conducted studies indicate an increase in importance of funds in the process of financing micro and small enterprises. Since establishment of the first lending institution they have originated 171 300 loans with the total value of 2.8 billion zlotys. It should be highlighted that not only unemployed and small enterprises (the so-called direct beneficiaries) but also guaranty funds that develop their activities by offering guaranties to borrowers are beneficiaries of that lending activity. Also the banking sector obtains benefits from such activities by finding potential borrowers possessing

the credit history required by the banks among the clients of the funds. In this aspect the complementarity of loan in relation to bank credit manifests. The positive influence of lending activities on socio-economic development is also important. Supplying capital to the local economy supports the process of establishment and development of small businesses and limits the phenomenon of unemployment.

Loan funds, however, encounter many barriers limiting development of their activities. Low level of capitalization is the main issue. Only a small percentage of funds possess significant financial resources while capitalization of the majority of them does not exceed 10 million zlotys. This is not without influence on the scope of services provided and the capacity to satisfy the financial needs of enterprises. The uneven spatial distribution of funds also represents a significant barrier. The largest numbers of funds are available in Mazowieckie, Śląskie and Dolnośląskie voivodships. There are regions, however, (Lubelskie, Świętokrzyskie, Opolskie voivodships) in which the number of funds does not exceed 2 or 3. This is a significant barrier in access of entrepreneurs to loan funds. Among other obstacles, representatives of funds indicate lack of access to bank information on entrepreneurs, insufficient level of collaboration with guaranty funds and limited information and promotion of the offer of the funds in the community of entrepreneurs.

Conclusion

Limited access to external sources of financing is currently one of the major barriers limiting development of micro and small enterprises. This is caused mainly by high requirements of financial market institutions concerning credit history, securities for payoff of funds originated and high capital costs. Loan funds offer entrepreneurs access to necessary capital supporting in that way the process of financing the business activities conducted.

During the period covered by the study, increasing activity of funds in both obtaining the loan capital and conducted lending activities was observed. The trends observed were reflected in the increase in the number and value of originated loans. It should be highlighted, nevertheless, that the scope of activities of loan funds continues to be too small for the demand reported by entrepreneurs. Results of studies indicate that Polish enterprises use loans only to a minor extent as the instrument for business activity funding. This results from numerous barriers limiting the development of lending system and in particular low level of funds capitalization, their uneven geographic distribution and low effectiveness of information policies targeted at the community of entrepreneurs.

The above barriers coupled with the increasing importance of funds in the process of micro and small enterprises financing create the necessity for undertaking actions supporting development of the lending system in Poland. The activity is expected from both the government authorities and territorial governments. Opportunities for development of that system are also seen in the effective use of aid funds from international institutions and organizations, in particular the European Union.

Defining the position of the lending system in the process of micro and small enterprises financing it should be highlighted that loan funds are not competitors to banks. The area of their interest encompasses entities underappreciated by those institutions, i.e. the unemployed and small businesses. As a consequence, the task of the funds is not only to provide capital support to the smallest businesses but also preparing them to the future collaboration with financial market institutions.

The dynamic development of funds and increasing interest in that capital source indicate the large development potential of the lending system in Poland. Numerous and strong as concerns capital funds should be an important source of financial support for micro and small enterprises. Development of that system will surely contribute to improved accessibility to loan funds, increased innovation and competitiveness of enterprises and as a consequence socio-economic development.

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SPECIFICITY AND EFFECTIVENESS OF EMPLOYEE PENSION PROGRAMS IN THE FORM OF THE CONTRACT FOR THE EMPLOYER CONTRIBUTING THE EMPLOYEE CONTRIBUTIONS TO THE INVESTMENT FUND

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K e y w o r d s: employee pension program, investment fund, participation unit, rate of return.

A b s t r a c t

The market of employee pension programs (EPP) has functioned since 1999. The programs are established by the employers to secure higher pension benefits for the employees. They may assume the form of insurance or insurance-capital program. As a consequence of the fact that investing employee pension funds contributions in investment funds involves high investment risk the study aims at presenting the operational specificity of such programs and assessment of the results that investment funds' companies managing the largest numbers of programs of that type in Poland achieve. The study covered the years 2006–2009.

The studies indicate that during the analyzed period positive rates of return were generated only by the investments in debt securities funds, both Polish and foreign. Investments in aggressive funds generated losses at ca. 22–35% over the analyzed period. Additionally, attention should be drawn to the fact that the effects related to the crisis in the financial markets had no significant influence on the development of the employee pension programs in the form of a contract with an investment funds, which from the very beginning of operation, as in case of the other forms of EPP, enjoyed low level of interest among employees.

SPECYFIKA I EFEKTYWNOŚĆ PRACOWNICZYCH PROGRAMÓW EMERYTALNYCH W FORMIE UMOWY O WNOSZENIE PRZEZ PRACODAWCĘ SKŁADEK PRACOWNIKÓW DO FUNDUSZU INWESTYCYJNEGO

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S ł o w a k l u c z o w e: pracowniczy program emerytalny, fundusz inwestycyjny, jednostka uczestnictwa, stopa zwrotu.

A b s t r a k t

Rynek pracowniczych programów emerytalnych (PPE) funkcjonuje od 1999 r. Programy są tworzone przez pracodawców w celu zapewnienia wyższych świadczeń emerytalnych pracowników. Mogą one przyjmować postać ubezpieczeniową lub ubezpieczeniowo-kapitałową. W związku z tym, że lokowanie środków uczestników pracowniczych programów emerytalnych w funduszach inwestycyjnych jest obciążone dużym ryzykiem inwestycyjnym, celem pracy jest przedstawienie specyfiki działania tychże programów oraz ocena wyników, jakie osiągają towarzystwa funduszy inwestycyjnych zarządzające największą liczbą tego typu programów w Polsce. Badaniem objęto lata 2006–2009.

Z badań wynika, że w analizowanym okresie dodatnie stopy zwrotu przyniosły jedynie inwestycje w fundusze papierów dłużnych, zarówno polskich, jak i zagranicznych. Inwestycje w fundusze agresywne w analizowanym okresie przyniosły straty na poziomie 22–35%. Należy ponadto zwrócić uwagę, że efekty związane z kryzysem na rynkach finansowych nie miały znaczącego wpływu na rozwój rynku pracowniczych programów emerytalnych w postaci umowy z funduszem inwestycyjnym, który od początku funkcjonowania, tak jak w przypadku pozostałych form PPE, cieszy się wciąż niewielkim zainteresowaniem wśród pracodawców.

Introduction and objective of the studies

According to the Ustawa o pracowniczych programach emerytalnych of the 20th of April 2004 (DzU nr 116, poz. 1207 ze zm.), the employer may establish for his employees a program allowing accumulation of funds for the future pension, within the frameworks of which funds of the employer financed basic contribution (up top 7% of the employee gross remuneration) and of the auxiliary contribution paid voluntarily by the employees (up to four and a half times the average monthly remuneration projected for the economy for a given year) would be transferred to a selected institution (*Jak utworzyć...* 2007). Employee pension programs (EPP), next to the individual pension accounts (IPA), operate within the frameworks of the voluntary third pillar of the pension system, in which the first two pillars are of the compulsory character. This is the basic part of the system that on one hand, in case of the first pillar, is operated by the Social Insurance Institution and on the other, within the frameworks of the second pillar, by the General Pension Funds (SZUMLICZ 2009, p. 3).

Employee pension programs are established by employers to secure additional pension coverage for their employees, who may participate in the program if they are younger than 70 years and have been employed with the given employer on the base of the employment contract, appointment, election, nomination, cooperative employment contract, contract made as a consequence of appointment or election to a body representing a legal entity as well as members of the agricultural production cooperatives and cooperatives of framers' circles for at least 3 months, although the company contract may make that period shorter. The disbursement of funds from the program takes

place on application by the program participant after him reaching 60 years of age or after award of the rights to pension and completing 55 years of age. In the situation that the program participant does not apply for disbursement, it is done automatically after he is 70 years of age or after termination of the employment relation, if he continues to be an employee of the employer maintaining the program.

Depending on the decision by the employer and representatives of the employees, the employee pension program can by run in the form of the employee pension fund, contract for payment of employee contributions by the employer to an investment fund, contract of group life insurance of employees with the insurance capital fund and foreign management. The program can be established by the employer on its own, as the company program or jointly with other employers as the inter-company program.

Employee pension programs are established for the purpose of increasing the funds available during retirement. That goal can be achieved the most efficiently when the entire contribution is allocated for investments. That situation occurs in case of the EPP of purely capital character where the accumulated savings depend on stock exchange indexes and results obtained by the institutions managing the entrusted funds. Functioning of the employee pension programs in the capital form, however, involves high level of investment risk as a consequence of which the study aims at presenting the specificity of employee pension programs operation in the form of a contract concerning employee contributions payment to the investment fund and assessment of the results obtained by the investment funds companies managing the largest numbers of programs of that type in Poland.

General assumptions and situation in the market of employee pension programs in the form of a contract with the investment fund

The employee pension program in the form of a contract on payment of employee contributions by the employer to the investment fund is a purely investment program that aims at generating revenue from investments of different capital market instruments, and actually accumulation and multiplying the savings allocated for disbursement of pension benefits.

An investment fund, according to art. 33 of the kodeks cywilny of the 23rd of April 1964 (DzU nr 16, poz. 93 ze zm.) is an organizational unit which, according to the special regulations (Ustawa o funduszach inwestycyjnych z 27 maja 2004 r. DzU nr 146, poz. 1546 ze zm.), as of the moment of registration with the register of investment funds, give the status of a legal

entity. An investment funds company, which is a body of the fund, manages it and represents it in relations with third parties, can establish more than one fund in the form of an open fund, specialist open fund or a closed fund. As a consequence of the fact that within the frameworks of the employee pension programs (art. 2 pkt 4 ustawy o pracowniczych programach emerytalnych) only the purchase of participation units in an open investment fund or a specialist investment fund is possible, purchase of investment certificates issued by a closed investment fund for the contributions paid to the program is not possible.

Also the Act on employee pension programs offered the employers the possibility of making contracts with various investment funds managed by the same investment funds company. In such cases, the employee, according to the individual preferences, has the right to change the investment fund or to split the funds paid to such investment funds on conditions specified in the company pension agreement. Transfer of funds between investment funds in this case is not treated as a transfer disbursement. In the situation when within the frameworks of the employee pension program there is more than one fund, the employer, in agreement with the representation of employees and on conditions specified in the company pension agreement, signs a separate contract with each investment fund managed by the same company.

Establishment of the employee pension program in the form of the contract for payment of employee contributions to an investment fund requires making a company agreement with the representation of employees, making a contract with the investment funds company and registration of the program with the register of the employee pension programs maintained by the Financial Supervision Authority.

The market of employee pension programs started functioning in 1999[1] and programs in the form of the contract for payment of employee contributions to the investment fund were registered first (Tab. 1).

According to the status as at the end of 2008, the register of the EPP maintained by the Financial Supervision Authority contained only 1078 programs provided by 1112 employers, i.e. 5.47% more than in 2007. The majority of those programs were the EPPs in the form of group life insurance (34 programs) and contracts with investment funds (24 programs). In 2008, the number of participants in the EPP increased by 4.1% to reach 325,000 people as at the end of that year. In 2008, the amount of contributions paid to their accounts amounted PLN 832 million while in 2007 that amount was PLN 747 million. Considering the accumulated amount of contributions paid to the investment funds, as at the end of 2008 it amounted PLN 1,525.07 million

[1] Subject to the already repealed Ustawa o pracowniczych programach emerytalnych of the 22nd of August 1997 (uniform text in DzU nr 60, poz. 623).

Table 1

Basic data characterizing the market of employee pension programs during the years 1999–2008

Item	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Number of existing EPP including, in the form of:	3	29	150	182	207	342	906	974	1019	1078
– insurance	–	3	17	33	82	202	707	754	766	800
– contract with an investment fund	3	25	56	70	74	94	174	194	226	250
– employee pension fund	–	1	77	79	51	46	25	26	27	28
Number of EPP participants ('000) including, in the form of:	0.03	5.39	55.27	81.22	96.48	129.09	260.25	281.53	312.13	325.01
– insurance	–	0,41	6.07	8.22	13.63	26.06	109.82	119.2	133.9	130.22
– contract with an investment fund	0.03	4.05	19.3	23.7	29.46	51.49	88.77	101.6	118.17	135.57
– employee pension fund	–	0.93	29.9	49.3	53.58	51.53	61.66	60.73	60.06	59.22
Value of assets accrued as at the end of the year (in PLN M)	0.03	4.73	71.23	279.83	526.97	919.45	1695.47	2793.15	3806.44	3607.74

Source: own work based on: *Rocznik Ubezpieczeń i Funduszy...* (2006), *Rocznik Rynku.* (2007), *Rynek pracowniczych programów emerytalnych.* (2007), *Rynek PPE – aktualne zmiany.* (2009), *Biuletyn Roczny. Rynek PPE...* (2009).

representing 44.14% of the total amount accumulated in the EPPs (25.96% was paid as contributions to programs with insurance capital fund).

It should be noted, however, that in 2008 the value of assets accumulated with the EPPs decreased by 5.2%, from PLN 3.8 billion in 2007 to PLN 3.6 billion in 2008, which resulted in decreasing the average value of funds accumulated on the EPP member's account by PLN 1,500 (to PLN 11,325 in 2008 from PLN 12,825 in 2007). Additionally, in 2008, 75 applications for registration of a program were lodged as compared to 82 in 2007 of which 77 programs were registered in the EPP register (15 programs more than in 2007), including 49 in the form of group life insurance with insurance capital fund, 27 in the form of the contract for payment of employee contributions to the investment fund by the employer and 1 in the form of the employee pension fund. So far not even one program in the form of foreign management has been registered (*Pracownicze programy.* 2009).

In 2008, the market of employee pension programs in the form of the contract for payment of employee contributions to the investment fund by the employer was serviced by 15 investment fund companies (Tab. 2).

Table 2

Number of employee pension programs managed by investment fund companies (TFI) during the years 2003–2008

TFI name	Year					
	2003	2004	2005	2006	2007	2008
BPH TFI S.A.	14	14	12	15	15	16
BZ WBK AIB TFI S.A.	1	2	2	2	2	2
Commercial Union Polska TFI S.A.	1	2	7	7	8	9
DWS Polska TFI S.A.	5	4	4	6	7	9
ING TFI S.A.	12	18	54	60	64	65
KBC TFI S.A.	2	2	2	2	2	2
Legg Mason TFI S.A.	18	19	22	25	29	33
Pioneer Polska TFI S.A.	13	14	13	10	10	9
PKO TFI S.A.	–	–	2	2	5	5
SEB TFI S.A.	1	1	1	1	1	1
SKARBIEC TFI S.A.	6	5	5	5	5	5
TFI Allianz Polska S.A.	–	–	–	1	1	1
TFI PZU S.A.	–	12	49	55	73	84
TFI Spółdzielczych Kas Oszczędnościowo-Kredytowych S.A.	–	–	–	2	3	8
Union Investment TFI S.A.	1	1	1	1	1	1
Total	**74**	**94**	**174**	**194**	**226**	**250**

Source: own work based on sources as in table 1.

As at the end of 2008, four companies (TFI PZU S.A., ING TFI S.A., Legg Mason TFI S.A., BPH TFI S.A.) managed 198 programs representing 79.20% of the market of the employee pension funds in the form the contract for payment of employee contributions to the investment fund by the employer. As a consequence, the analysis of the conditions of programs and investment profits generated in that form of the employee pension funds were presented on the base of funds offered by those companies.

Offer of the investment fund companies for employee pension programs

The differences in the offers of the investment fund companies as concerns the employee pension funds concern mainly the range of funds offered providing the opportunity for flexible choices depending on the level of acceptable risk, type and level of costs related to the investment and in particular the strategies and investment results of the funds in which the

contributions to the program were invested. Increasing competition noticeable in the contemporary financial market causes that the offer of entities involved in the process of investing the capital entrusted to them by the clients is expanding and improving.

The choice of funds in which the funds of employee pension programs; participants are invested is agreed individually between the employer and the investment fund company. The companies offer from a few to several funds differing in the risk level.

Investing the funds of employee pension program participants in an open of specialist open investment fund involves the necessity of paying the servicing (distribution) fee, which means that from every contribution paid to the fund a set percentage is deducted that increases with the increase of the risk level of the fund to which the contributions paid to the program are allocated. Comparison of the levels of the maximum servicing fees for purchase of participation units in the investment funds of companies dominating in the market as concerns the number of programs maintained for the employee pension programs is presented in Table 3.

Table 3

Maximum levels of service fees in the investment funds for the employee pension funds

TFI PZU S.A.		ING TFI S.A.		Legg Mason TFI S.A.		BPH TFI S.A.	
Fund name	fee [%]	fund name	fee [%]	fund name	fee [%]	fund name	fee [%]
FIO Dept Securities Polonez		FIO Bonds		Stocks FIO		BPH Bonds 1, Bonds 2, Emerging Europe Bonds, Stabile Growth, Active Management, Stocks, Stocks of Dynamic Companies, Emerging Europe Stocks, Emerging Europe Real Property, Global of Food and Raw Materials	
– JU typ D	0.50	– JU typ E	2.00	– JU typ E	0.00		
– JU typ E	0.25	– JU typ F	2.00				
FIO Stabile Growth Mazurek		FIO Stabile Growth		Bonds FIO			
– JU typ D	4.50	– JU typ E	4.00	– JU typ E	0.00		
– JU typ E	2.25	– JU typ F	4.00				
FIO Balanced		FIO Balanced		Balanced Central Europe FIO			
– JU typ D	4.50	– JU typ E	4.50	– JU typ E	0,00	– JU typ A	1.00
– JU typ E	2.25	– JU typ F	4.50				
FIO Stocks Krakowiak		FIO Stocks		Senior SFIO			
– JU typ D	4.50	– JU typ E	5.00	– JU typ E	0.00		
– JU typ E	2.25	– JU typ F	5.00				
FIO Stocks New Europa							
– JU typ D	4.50						
– JU typ E	2.25						

Source: own work based on the charters of funds and information bulletins.

Investing in employee pension programs involves much lower costs that individual saving in such funds as special units are dedicated to the employee pension funds (e.g. in Legg Mason TFI S.A. E type units, or D and E type units in TFI PZU S.A.), which require lower distribution fee or sometimes are even exempt from it (Legg Mason TFI S.A., TFI SKOK S.A.) as well as lower management fee. If, on the other hand, the fund does not offer separate participation units for the EPPs, then the standard units are sold, as, e.g. in case of the BPH TFI S.A. (A type participation units).

Usually, the highest service fees are charged for purchase of participation units in the aggressive funds and the lowest in the least risky ones. In case of sub-funds of the Umbrella Investment Fund of the BPH the level of service fee cannot exceed 1% of the payment value and similarly to the other funds it is subject to individual negotiations with the individual employer. During the time of poor economic situation and unfavorable situation in the financial markets the investment fund companies also apply promotional service fees decreasing them for a certain period of time, even to 0 percent.

The participant in the employee pension program determines the method of investing the funds in specific investment funds. The funds also offer model

Table 4

Maximum fund management fees

TFI PZU S.A.		ING TFI S.A.		Legg Mason TFI S.A.		BPH TFI S.A.	
Fund name	fee [%]	fund name	fee [%]	fund name	fee [%]	fund name	fee [%]
FIO Debt Securites Polonez, FIO Stabile Growth Mazurek		FIO Bonds		Stocks FIO, Balanced Central Europe FIO		Bonds 1, Bonds 2	
– JU typ D	2.35	– JU typ E	1.00	– JU typ E	2.50	– JU typ A	2.00
JU typ E	2.35	– JU typ F	1.50				
FIO Balanced, FIO Stocks Krakowiak, FIO Stocks New Europe		FIO Stabile Growth		Bonds FIO		Emerging Europe Bonds	
		– JU typ E	1.50	– JU typ E	1.00	– JU typ A	2.50
		– JU typ F	2.50				
– JU typ D	3.80	FIO Balanced, FIO Stocks		Senior SFIO		Stabile Growth, Stocks, Active Management, Stocks of Dynamic Companies, Emerging Europe Stocks, Emerging Europe Real Property, Global of Food and Raw Materials	
– JU typ E	3.80	– JU typ E	2.00	– JU typ E	1.30		
		– JU typ F	4.00				
						– JU typ A	4.00

Source: own work based on the charters of funds and information bulletins.

investment strategies in which the funds are selected automatically according to the participant;s age, which allows full use of the potential of profits resulting from investing in the stock market during the initial years of saving increasing the security of funds with approaching the retirement age. The individual investment strategy can be changed at any time; also the funds accrued in the program can be freely moved between funds. For exchange of participation units in one funds for participation units in another fund the so-called conversion fee determined as percentage (e.g. 1% in case of the ING TFI S.A.) relative to the amount allocated for purchase of participation units in the target fund is charged. The amount of the service fee for purchase of participation units in the target fund is decreased by the amount of the service fee paid earlier on purchasing the participation units in the source fund that are being converted. The participant is exempt from the service fee in case it is higher in the source fund than in the target fund.

In case of the employee pension program in the form of a contract with the insurance company the so-called management fee is also charged, which is defined as a percentage of the net value of fund assets per year. The examples of maximum management fees are presented in Table 4.

The management fee increases with the increasing aggressiveness of the investment policy of the given fund.

Investment results of employee pension programs

In the market of employee pension programs, companies present a diversified offer of investment funds characterized by safe, balanced as well as aggressive profile of investing of the contributions paid to the program. Additionally, the companies allow investing the funds in the international markets, both European and global, although such funds are relatively few.

The effectiveness of funds offered by investment fund companies most frequently selected by the employers during the years 2006–2009 is presented in Table 5.

Investment funds effectiveness analysis concerning employee pension programs indicates that during the period of the past 12 months almost all funds, with the exception of certain foreign funds, generated positive rates of return. This situation indicates an increase in value of participation units during the recent months. However, for the past three and two year investment periods, during which the financial crisis started[2] positive growth rates were achieved

[2] The term "crisis" generally means "turning point, decisive moment, period of breakthrough, collapse in the current line of development". F.S. Mishkin defines the financial crisis as the situationin which serious disturbances appear in the financial market, which result in a significant

Table 5

Investment results of funds managing the highest numbers of employee pension programs during the period of 31.12.2006–31.12.2009

Fund name	Rates of return (%) for periods ending on 31.12.2009					
	1 month	3 months	6 months	12 months	24 months	36 months
1	2	3	4	5	6	7
DEBT SECURITIES FUNDS						
BPH Treasury	0.21	1.25	2.69	7.47	12.12	15.80
BPH Bonds 1	0.01	1.09	6.25	15.04	25.88	27.49
BPH Bonds 2	-0.10	0.87	7.43	16.39	33.57	33.86
ING FIO Bonds						
– E type PU	0.15	1.18	2.93	3.96	12.94	14.87
– F type PU	0.10	1.03	2.62	3.34	11.60	12.82
Legg Mason Bonds FIO	0.06	0.98	2.41	2.49	–	–
PZU FIO Debt Securities Polonez						
– D type PU	-0.06	0.57	2.17	2.39	11.22	12.92
– E type PU	-0.06	0.55	2.12	2.29	11.01	12.59
STABLE GROWTH FUNDS						
BPH Stable Growth	0.21	2.32	13.57	26.27	4.07	9.12
ING FIO Stable Growth						
– E type PU	0.47	2.48	10.47	14.80	-2.83	0.89
– F type PU	0.36	2.13	9.72	13.26	-5.42	-3.09
Legg Mason Senior SFIO	0.26	1.52	7.78	13.72	6.08	14.92
PZU FIO Stabile Growth Mazurek						
– D type PU	0.38	2.41	8.60	11.80	-4.20	-1.07
– E type PU	0.37	2.39	8.54	11.65	-4.48	-1.53
BALANCED FUNDS						
BPH Active Management	0.50	2.05	15.70	27.39	-9.13	-3.86
ING FIO Balanced						
– E type PU	0.72	3.42	15.76	22.48	-11.62	-7.29
– F type PU	0.49	2.75	14.26	19.34	-16.10	-14.25
PZU FIO Balanced						
– D type PU	0.35	3.71	17.16	20.75	-15.59	-7.51
– E type PU	0.22	3.26	16.16	18.71	-18.39	-12.08

decrease in the prices of assets and colapseof many institutions, both financial and non-financial (Mishkin 1995, p. 223), after: (Iwanicz-Drozdowska 2002, p. 30). The global financial crisis that started in 2007 and emerged with full power at the turn of July and August 2009, had its source in the United States in the collapse in the high risk mortgage loans originated by the banks at high payoff risk frequently to people with the so-called marginal financial capacity (*subprime mortgage)* (Nosek, Pietrzak 2009, p. 85). High, unsatisfied demand for real property among less affluent citizens of the United States, high level of competition at the mortgage lending market translating into low margins for standard products and introduction of unjustified variable interest rates for loand caused rapid development of the subprime market leading to the crisis the consequences of which moved quickly to the European market (Monkiewicz 2008, pp. 121–122).

cont. Table 5

1	2	3	4	5	6	7
AGGRESIVE FUNDS						
BPH Stocks	0.99	3.80	24.72	34.20	-31.01	-22.59
BPH of Dynamic Companies	1.48	0.23	27.19	42.48	-44.13	-34.94
ING FIO Stocks						
– E type PU	1.25	4.02	22.02	37.39	-29.41	-24.50
–F type PU	1.04	3.37	20.49	34.00	-32.86	-29.95
Legg Mason Stocks FIO	0.66	3.16	21.40	32.36	–	–
PZU FIO Stocks Krakowiak						
– D type PU	1.01	5.82	24.92	33.13	-30.27	-25.68
– E type PU	1.00	5.77	24.80	32.88	-30.54	-26.12
FOREIGN FUNDS						
BPH Emerging Europe Bonds	1.06	0.62	3.16	14.87	31.07	28.00
BPH Emerging Europe Stocks	-0.90	0.43	17.57	38.49	-21.54	-11.16
BPH Emerging Europe Real Property	-1.46	-2.88	12.36	56.59	-46.38	-53.92
Legg Mason Balanced Central Europe FIO	-0.24	-1.43	8.92	15.32	–	–
PZU FIO Stocks New Europe						
– D type PU	6.02	4.84	24.16	51.86	-19.81	-13.26
– E type PU	5.79	4.20	22.66	48.16	-23.61	-19.32

Source: own computations based on participation units value listings for individual funds.

only by debt securities funds and some stable growth funds. Among the funds with the lowest risk level the best results were achieved by the BPH Bonds 2 fund (rate of return at 33.86%), while the weakest growth rate of the participation units value was recorded in one of the youngest funds by Legg Mason, that is Bonds FIO the first valuation of which took place in January 2008.

On the other hand another specialist fund, Legg Mason Senior, which during the period of the last three years generated the rate of return at the level of 14.92% was the best stable growth fund. During that time the funds of PZU TFI S.A. and ING TFI S.A. incurred losses.

The remaining types of Polish funds generated negative rates of return during both two and three year periods. The larger decreases were recorded in case of the funds of Polish stocks than on the balanced funds among which the BPH Active Management Fund recorded the lowest losses.

Considering foreign funds, the same as in case of Polish funds, profits were generated only by the funds investing at the lowest risk levels that is the funds of BPH Emerging Markets Bonds. The other stocks-based funds generated negative rates of return and among them the BPH Emerging Europe Real

Property fund investing in the stocks of companies from the countries of Central and Eastern Europe from the sectors of construction, development and hotel business recorded the highest losses (-53.92%).

It should also be noticed that analysis of the investment profits of investment funds offered by investment fund companies shows that the leader of the employee pension programs market, i.e. PZU TFI S.A., that services the largest number of such programs generated poorer results in each group than the remaining funds.

Some employee pension programs offer raw materials based funds. For example the BPH TFI S.A. has in its offer the Global Foods and Raw Materials fund that invests mainly in stocks of companies from the food and raw materials sectors and other financial instruments representing similar levels of risk reflecting exchange prices of goods and raw material indexes. From the beginning of its operation, i.e. as of the 15th of December 2008, that fund generated profit at the level of 30.96%.

Conclusion

The financial standing of the employer, which may translate directly into the potential of the employer to operate the program and its propensity for liquidation of the program influences the functioning of the employee pension programs. The conclusions in that field that can be drawn from the above paper are as follows:

1. Analyzing the market of employee pension programs in 2008 as compared to the earlier years it can be noticed that since the beginning of the pension reform that market has not developed at the expected rate and at the same time that during the analyzed period neither lower interest in establishing such programs in enterprises nor major resignations from the EPPs have been observed.

2. Observing the situation in the EPPs market, in 2008 15 EPPs more were registered than in 2007 while 18 programs were removed from the register (1 less than in 2007); the supplementary pension insurance covered 12,700 people and the accounts of the participants in the employee pension programs were supplied with a higher amount of contributions than during the preceding years. On the other hand, a decrease in the value of assets accumulated on individual accounts of participants in those programs (by 5.2%) was recorded, although it was not as big as in case of the individual pension accounts (decrease by 13.4%).

3. In 2008, similar to the preceding years, the program in the form of the group life insurance with the insurance capital fund was the most frequently

applied form of employee pension programs although the share of that form decreased by ca. 1% to the benefit of the increase in the share of the EPPs in the form of a contract with the investment fund, which form recorded the largest number of participants, i.e. around 135,000 people representing 41.54% of the market.

4. The market of employee pension programs in the form of a contract of payment of employee contributions to the investment fund by the employer is serviced currently by fifteen companies, although four companies, i.e. TFI PZU S.A., ING TFI S.A., Legg Mason TFI S.A. and BPH TFI S.A. have the dominating market share (79.20%) as concerns the number of programs managed. Those companies, within the frameworks of the employee pension programs offer from four to eleven funds differing in the scope of investment policies and level of fees related to participation in the funs such as the service fee and management fee that increase with increasing aggressiveness of the investment strategy of the given fund.

5. Analysis of profitability of the investment funds offered by the investment fund companies most frequently chosen by the employers showed that during the period of 36 months (during the years 2006–2009) positive rates of return were obtained by all funds only in the group of debt securities based funds among which the BPH Bonds 2 fund proved the most profitable (33.86%), while the weakest results were generated by the aggressive funds where the value of the participation unit lost from 22.59% for the BPH Stocks fund to 34.94% for the BPH Dynamic Companies fund. It should be noticed, however, that the last 12 months brought an improvement in the situation in the capital markets and almost all the funds recorded positive rates of return during quarterly accounting periods, particularly the funds with aggressive investment policy.

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CUSTOMER LOYALTY TO INSURANCE COMPANIES

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Key words: customer loyalty, insurance services, quality, satisfaction, insurance companies.

Abstract

Loyalty of customers in the insurance services market is determined by numerous factors. The factors with the highest share in building loyalty attitudes include the offer conditions, credibility and confidence in the insurance company and premium amount. The location of the insurance agency, on the other hand, has the lowest influence on the loyalty of the customer to the insurer.

LOJALNOŚĆ KLIENTÓW WOBEC TOWARZYSTW UBEZPIECZEŃ

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Słowa kluczowe: lojalność klientów, usługi ubezpieczeniowe, jakość, satysfakcja, zakłady ubezpieczeń.

Abstrakt

Lojalność klientów rynku usług ubezpieczeniowych jest determinowana przez wiele czynników. Do czynników mających największy udział w budowaniu postaw lojalnościowych można zaliczyć: warunki oferty, wiarygodność i zaufanie do zakładu ubezpieczeń oraz wysokość składki. Najmniejszy wpływ na przywiązanie do ubezpieczyciela ma lokalizacja placówki.

Customer loyalty

Loyalty of clients in the market manifests through their specific behaviors and attitudes; it is the feeling of ties connecting the client and the firm. As a consequence, a loyal customer is one that makes regular and repeated

purchases, is resistant to the activities of competitors, is characterized by low sensitivity to price change and recommends the company to other people.

The differences that exist in the development and expression of loyalty of customers to enterprises offering services and material goods should be remembered (URBAN, SIEMIENIAKO 2008, pp. 29–30). Material products can be investigated by the client using his senses as they are defined precisely already on purchase. Purchase of services involves a higher risk because of the characteristics of services such as intangibility, diversity and (generally) inseparability of the service from the service provider. Additionally, in case of services, the customer also bears much higher risk of a change of provider because of the higher costs. The limitation of choice possibilities influences the difficulties in taking the decision concerning change of the service providing company. "The potential buyer of services, as opposed to the buyer of material goods, cannot compare the offers in one spot and at one time. Clients of service companies are characterized by higher propensity for loyalty as compared to the buyers of material goods" (RUDAWSKA 2005, p. 45). As a consequence, service enterprises, which also include insurance companies, have much better opportunities to achieve a higher level of loyalty among their customers than the companies offering material goods.

The importance of loyalty of customer using insurance services is high. Insurance as a service is characterized by intangibility, lack of uniformity and impossibility of storage. The buyers of the service are looking for a material confirmation of the quality and as a consequence recommendations and references become extremely important for them. Observation of the trends in the insurance market in Poland leads to straightforward conclusions. Year by year competition among insurance companies increases, the requirements of clients concerning prices, distribution and quality of service increase, which makes it increasingly difficult for insurance companies to win new customers, retain their current customers and build long-term relations with them. As a consequence the analysis of consumer needs, surveying the level of their loyalty and factors determining loyalty to a given brand is so important (WITKOWSKA, NIEŻURAWSKI 2007, p. 380).

It is worth to consider the characteristics of a loyal attitude of the client in the insurance services market. Loyalty of an insurance company customer is the propensity to purchase insurance products from only one insurance company at a specific time. The customer makes insurance contracts with one insurer and on expiration of those contracts renews them. In addition, the customer expresses positive opinions about his insurance company, encourages friends to use its services. It should be noticed that a different level of loyalty to the company characterizes every client in the insurance market. As a consequence the customers should not be treated in the same way. The

important thing is to segment the market according to the loyalty of the customers to a given brand, i.e. in the context of diversified types of loyalty.

Loyalty of the customer to the insurance company was defined as propensity to purchase insurance services of one insurer, low sensitivity to premium increase and wide recommendation for the customer's insurer.

Considering loyalty to the products of the company and the fact of making further, repeated purchases we can identify four types of loyalty: no loyalty, passive loyalty, hidden loyalty and exceptional loyalty. Analysis of the attitudes and behaviors of that type is particularly important because of the possibility of comparing it to the insurance services market.

Lack of loyalty characterizes the customer who makes purchases rarely and whose loyalty to the insurance company is low. The costs of winning that type of buyers are incompatible to the benefits that they may offer (RUDAWSKA 2005, pp. 29–30). That group consists of the so-called occasional clients, i.e. people, who make a single purchase of the insurance policy. They are characterized by lack of the feeling of loyalty to the insurer.

Passive loyalty means that the customer does not care which insurer he uses, but still uses its services. The factor determining such behavior is, in most cases, convenience or a custom. This type of loyalty frequently concerns the brand that has a very long history in the market and changing it involves certain inconvenience. Passive loyalty frequently characterizes clients of companies that previously used to hold the monopolistic position in the market and have retained a strong position in it until the present day (e.g. PZU S.A., Warta S.A.). In case of the insurance market the customers characterized by loyalty of that type will be ready to move to a competitor if offered favorable conditions (e.g. lower price).

The situation involved in making a long-term life insurance contract may be another example of passive loyalty. The client decides for that option only and exclusively on demand by the bank, as the policy purchased is to be one of the securities for the mortgage loan. The customer remains loyal to the given insurer because he assumed the liability for yearly renewal of the policy. The necessity to pay the insurance premium for long years until payoff of the loan is the only reason for qualifying that customer as a loyal one.

Hidden loyalty means that the customer feels loyal to his insurer but rarely makes purchases of insurance services. That behavior is in mot cases caused by various situational factors and has nothing to do with unwillingness of the customer, e.g. the situation of a student that uses services of one insurer, however, the university at which he studies requires him to purchase accident insurance from another insurer of which it is a customer. As a consequence, although the student feels positive ties with his insurer, he uses services of the competitor, as a consequence of which achievement of full loyalty is impossible.

Financial limitations are the most frequent cause for making rare and irregular purchases by customers characterized by hidden loyalty. Despite the feeling of strong ties to their insurer their financial potential limits purchase of insurance services to the compulsory insurance only. Nevertheless, it is worthwhile to maintain good relations with those clients. In the future, their material situation may improve significantly and then their earlier positive experience will result in increased purchases. Additionally, that group of customers is considered not excessively demanding and as a consequence servicing them is much cheaper and simpler.

Exceptional (true) loyalty means the customer attitude in the highest demand among insurance companies. That behavior is characterized by high loyalty to the insurer frequently combined with repeated purchases. Strong ties with the insurer manifest not only through frequent purchase of its products. Customers characterized by exceptional loyalty recommend their insurer to other persons and less frequently consider proposals from competitors. The loyalty to the insurance company results from the positive remembrance of the earlier actions taken by the consumer. Using services of a given insurance company should be long-term in nature, planned and not incidental to develop that type of loyalty.

Conscious choice of the consumer, not resulting from an accidental decision, lack of alternative offer or all types of "entry barriers" characterizes the exceptional loyalty. The consumer compares the insurance proposals together with the general conditions of different insurance companies and next chooses the one that satisfies his expectations the best. The process of selecting the offer preferred by the buyer leads to establishing a relation that is based on the high level of satisfaction. Satisfaction of the customer is created when his expectations are fulfilled that is he is supplied with services satisfying his needs. "That is why the activities of insurance companies should be focused for the future, cover many aspects and, first of all, be focused on the actual needs of the clients. Appropriate satisfaction of customer needs and insurance services quality satisfying the customer will allow insurance companies retaining their clients" (WITKOWSKA, NIEŻURAWSKI 2007, p. 388).

Customer satisfaction is highly important in building loyalty of the buyers. Increase in the buyer satisfaction has significant influence on the level of loyalty and increase in the recommendation proliferation index (STODOLNY 2008, p. 32–33). Satisfied customer is an immensely precious "tool" of promotion; that is why conclusions from the presented regularities should attract particular attention of the people responsible for marketing activities of insurance companies.

Thanks to collection and analysis of the information on customers, establishment of databases of the insurance company clients, they may achieve

significant advantage over competitors. „Knowledge acquired in that way allows attainment of numerous targets desired by entrepreneurs, including the insurers, such as maintaining loyalty of the customer, increasing its value over time and improving the quality of service as well as facilitating access to the offer of a given company" (KONARSKI 2010, p. 12).

Results of studies

Determining the level of loyalty as well as defining and setting the hierarchy of the factors influencing customer loyalty in the insurance services market was the goal of the study. The survey used the Internet questionnaire that was completed by 131 respondents.

In the survey, women represented 51% of the respondents and men 49% (Fig. 1). Young people aged 18 to 24 years were the most numerous group of the respondents – 33.6%. The other dominating group consisted of people aged 45 to 54 years – 29.0%. People aged 25 to 34 years and 35 to 44 years represented

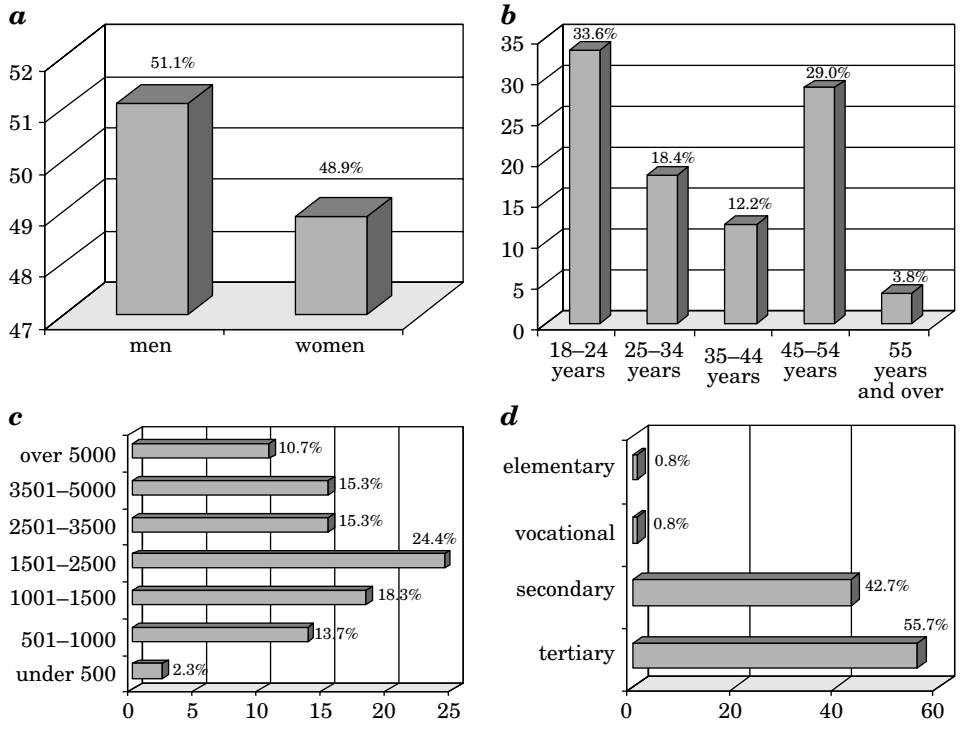

Fig. 1. Structure of the respondents: *a* – Gender structure of respondents, *b* – Age structure, *c* – Istructure, *d* – Education structure
Source: Own work based on the survey.

18.4% and 12.2% of the respondents. More than a half of the respondents possessed tertiary education (55.7%) while 42% of the respondents were people with secondary education. In case of one fourth of the respondent the household income per household member was between PLN 1501 and PLN 2500.

The studies focused, first of all, on the length of collaboration of the customer with the insurance company (Fig. 2). More than 22% of the respondents declared the time of collaboration with their insurers exceeding 10 years. A similar group of respondents declared the relation with the insurance company lasting from 3 to 5 years.

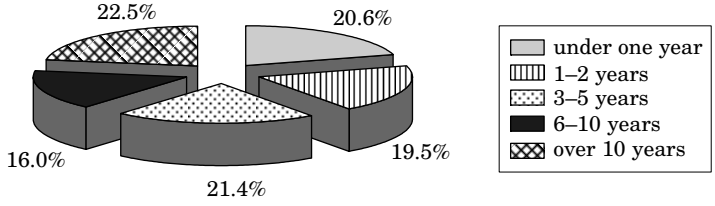

Fig. 2. Length of collaboration with the insurance company
Source: Own work based on the survey.

Loyalty divisibility, which provides information on how many insurance companies the customers used during the given period is an important factor from the perspective of loyalty measurement (Fig. 3).

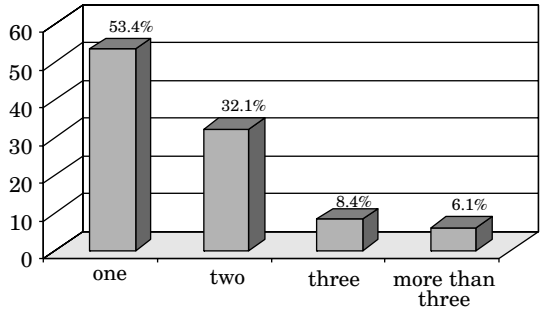

Fig. 3. Loyalty divisibility
Source: Own work based on the survey.

The offer of one insurance company only was used by 53.4% of the respondents. One third purchased insurance from two insurers while over 14% of the respondents declared using services of three or more insurers.

Almost 50% of the respondents declared remaining in relation with the current insurer. Definite lack of interest in changing the insurance company was expressed by 18% of the respondents while only 1.5% were determined to change the insurance company in the near future (Fig. 4).

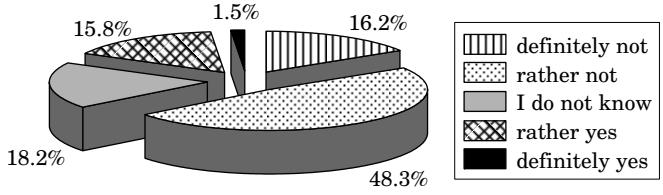

Fig. 4. Propensity to change the current insurer
Source: Own work based on the survey.

Studies conducted by many scientists indicate certain regularity: the more the client is satisfied with the services and products the less sensitive he is to the price increase. The survey considered 5% and 10% increase of the insurance premium (Fig. 5).

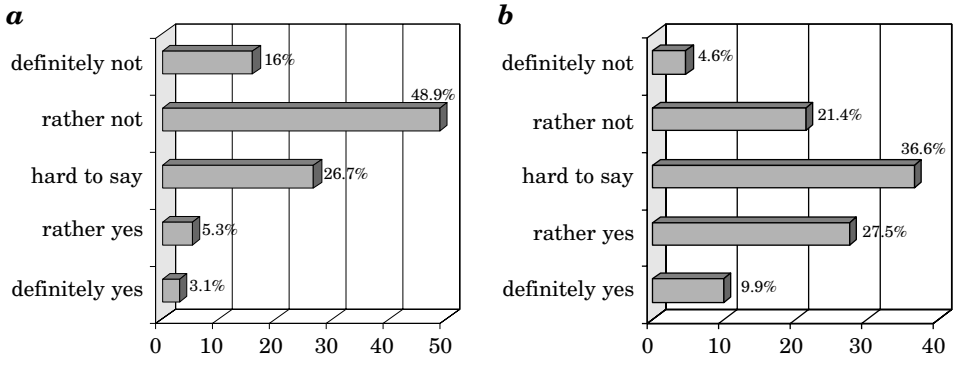

Fig. 5. Price sensitivity of clients: *a* – 5% price increase, *b* – 10% price increase
Source: Own work based on the survey.

In case of the premium increase by 5% almost a half of the respondents declared loyalty to the current insurance company. On the other hand, 16% would definitely change the insurer. The situation looks different in case of 10% increase in price as 26% of the respondents declared that they would definitely or rather not change the insurer, However, in case of the premium price increase by 10% over 27% of the respondents would rather resign services by their current insurance company. This indicates that customers purchasing insurance services are much less tolerant to the 10% increase in the premium price.

The level of satisfaction with the current collaboration with the insurer represents another important component in loyalty measurement (Fig. 6). Determination of customers satisfaction will allow further and more in depth analysis of loyalty behaviors. The vast majority of the respondents (almost 72%) were satisfied or highly satisfied with the current collaboration while just over 19% were dissatisfied with it.

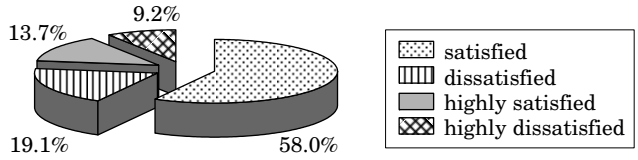

Fig. 6. Level of satisfaction with current collaboration

Source: Own work based on the survey.

Customer satisfaction influences customer loyalty, which manifests in the recommendations by customers. The survey indicated that over 54% of the respondents recommended more than once their insurer to others while 36% of the respondents had never done that yet (Fig. 7).

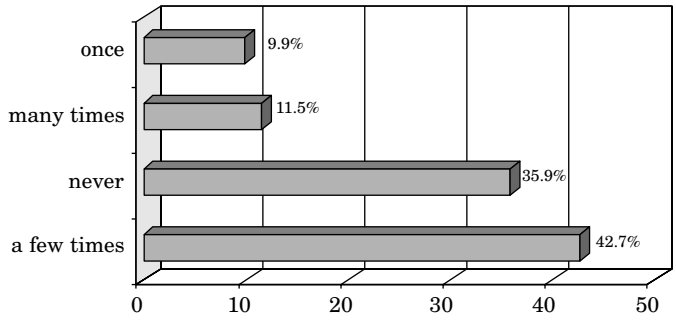

Fig. 7. Frequency of recommendations given

Source: Own work based on the survey.

Based on the literature and earlier studies the factors that influences loyalty of customers using insurance services were defined as:

– service quality;
– offer conditions;
– credibility and confidence in the insurance company;
– premium level;
– location of the insurance office.

Next the respondents were asked to rank the influence of individual attributes related to providing insurance services on continuation of collaboration with the insurance company.

Offer conditions were the factor with the strongest influence on the loyalty to the current insurer (Tab. 1). Almost 56% of the respondent pointed out that factor as the factor of decisive importance. The credibility and confidence in the insurer was the next ranked factor indicated by almost 52% of the respondents. Also the level of premium was very highly ranked by the

respondents Almost every second respondent answered that this factor was of decisive importance for further collaboration with the insurance company.

For 29% of the respondents service quality decides about further relations with the insurer while office location was important in case of 8.4% of the respondents.

Table 1

Factors influencing loyalty of customers using insurance services

Offer conditions			
Are of decisive importance	are of importance	are of minor importance	are of no importance
55.7%	35.9%	2.3%	6.1%
Credibility and confidence in the insurance company			
Are of decisive importance	are of importance	are of minor importance	are of no importance
51.9%	37.4%	5.3%	5.3%
Premium level			
Are of decisive importance	are of importance	are of minor importance	are of no importance
43.5%	46.6%	6.1%	3.8%
Service quality			
Are of decisive importance	are of importance	are of minor importance	are of no importance
29.0%	54.2%	13.0%	3.8%
Office location			
Are of decisive importance	are of importance	are of minor importance	are of no importance
8.4%	33.6%	36.6%	21.4%

Source: Own work based on the survey.

Conclusion

On the base of the conducted studies it can be concluded that a relatively high level of general loyalty characterizes the customers of the insurance services market. Undoubtedly the specificity of those services has significant influence on both the strength of ties as well as the type of factors determining them. Offer conditions, credibility and confidence as well as level of the premium are the factors indicated by ca. 50% of the respondents as the most important in taking the decision on further relations with the current insurance company.

Loyalty of customers purchasing insurance services was determined on the base of the analysis of the length of their relation with the insurer (over 60% of

the respondents maintain the relation with the insurance company for longer than 3 years); divisibility (over 50% of the respondents use services of just one insurer); propensity for change (almost 70% of the respondents would rather not change the insurance company): sensitivity to price change (at 5% price change 65% of the respondents would rather or definitively not search for a new provider of insurance services while in case of 10% increase of the price the loyalty was declared by 25% of the respondents); satisfaction (satisfaction level of 72% of the respondents was at a high level) and frequency of providing recommendations (over 40% of the respondents recommended the insurance company to their nearest people several times).

Loyalty of the customer is a very complex attitude and as a consequence difficult to achieve and maintain in practice. Nevertheless it gives the insurance companies concrete benefits and is necessary for achievement of long-term success. That is why it is worth taking effort related to surveying that phenomenon that is influenced by many interlinked factors. "Loyalty of consumers is currently one of the goals of the investments in the consumer" (PAZIO 2007, p. 374).

Translated by JERZY GOZDEK

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DEMOGRAPHIC DETERMINANTS OF THE HOUSING SITUATION IN THE TOWNS WITH THE STATUS OF COUNTIES IN WARMIŃSKO-MAZURSKIE VOIVODSHIP DURING THE YEARS 2005–2008

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K e y w o r d s: housing situation, eastern wall, housing policy, Warmia and Mazury, county.

A b s t r a c t

The aim of the paper is to present the changes in housing resources and conditions in urban counties of Warmińsko-Mazurskie voivodship during the years 2005–2008 considering the demographic context of those changes. Specification of indicators characterizing the towns with the status of county in Warmińsko-Mazurskie voivodship was presented against the background of Poland and the voivodship. The studies revealed the diversified situation of the analyzed towns. Olsztyn and Elbląg have significant housing resources as compared to the voivodship but the dynamics of changes and structure of those resources are not identical. Considering the increase in the number of marriages solemnized, positive increase of population and negative balance of migrations it must be concluded that the capital of the voivodship is characterized by positive changes that influence significantly the level of living of its population. Elbląg is below the average and the structure of housing supplied for use differed significantly from the expectations of the community.

DEMOGRAFICZNE DETERMINANTY ZMIAN SYTUACJI MIESZKANIOWEJ W MIASTACH NA PRAWACH POWIATU W WOJEWÓDZTWIE WARMIŃSKO-MAZURSKIM W LATACH 2005–2008

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S ł o w a k l u c z o w e: sytuacja mieszkaniowa, ściana wschodnia, polityka mieszkaniowa, Warmia i Mazury, powiat.

A b s t r a k t

Celem artykułu jest określenie zmian w zasobach i warunkach mieszkaniowych powiatów grodzkich w województwie warmińsko-mazurskim w latach 2005–2008, z uwzględnieniem ich kontekstu demograficznego. Zestawiono wskaźniki charakteryzujące miasta na prawach powiatu w warmińsko-mazurskim na tle Polski i województwa. Badania wykazały zróżnicowaną sytuację analizowanych miast. Olsztyn i Elbląg mają znaczne zasoby mieszkaniowe na tle województwa, jednak dynamika zmian i struktura tych zasobów nie jest jednakowa. Uwzględniając wzrost liczby zawieranych małżeństw, dodatni przyrost naturalny oraz ujemne saldo migracji, należy stwierdzić, że stolicę województwa cechują korzystne zmiany, które w znacznym stopniu wpływają na poziom życia zamieszkałej tam ludności. Elbląg plasuje się poniżej przeciętnej i jego struktura mieszkań oddanych do użytku znacznie odbiega od oczekiwań społeczeństwa.

Introduction

Housing development is an important element in the development of the country. It contributes to improvement of the living standards of the society (ANDRZEJEWSKI 1987, p. 46), increase of mobility of the society (WERNER 2008, p. 73), prevents unemployment and boosts the economy of the country or region (FRĄCKIEWICZ 1995, p. 38). The housing situation in Poland is generally viewed as difficult. The key factors of the housing problem are, first of all, the chronic statistical deficit of housing units understood as the difference between the number of households and the number of housing units in the existing resource, high level of technical wear of a part of the housing resource, a significant percentage of housing units qualified as substandard and lack of the reserve of available housing units (ZAPART 1999, p. 27). The housing problem has not emerged in Poland suddenly. It is a consequence of numerous processes and events of historical nature (NIECIUŃSKI 2005, p. 113, CESARSKI 2007, p. 95). It is also diversified geographically (ANDRZEJEWSKI 1987, p. 219).

In the studies on the housing situation – according to ANDRZEJEWSKI (1987, p. 223) – two trends are encountered. First, the specificity of housing conditions imposes the postulate of the strongest possible highlighting the local characteristics differentiating the population selected for the study either in time, or in territorial or social specification. Second, because of the general character of housing issues and their social role attempts are made at presenting the detailed elements allowing comparison of the housing situation in a specific community with the situation in Poland.

As a consequence, the aim of the study is the analysis of changes in housing resources and conditions in urban counties of Warmińsko-Mazurskie voivodship during the years 2005–2008 considering the demographic analysis against the background of Poland. For the purpose of the publication basic

average and structural indicators characterizing the demographic situation of the voivodship and urban counties (including the natural increase of population, number of solemnized marriages and migrations) as well as indicators such as, e.g. the usable area of housing units and rooms or intensity of housing construction, characterizing the subject and scope of studies on the housing policy were presented (ANDRZEJEWSKI 1987, p. 221, FRĄCKIEWICZ 1995, p. 7), and availability of statistical materials was the selection criterion.

Demographic factors of housing needs in Warmińsko-Mazurskie voivodship

The demographic processes are among major factors shaping and determining the volume of housing needs, their distribution and development trends. Warmińsko-Mazurskie voivodship is populated by just under 1.5 million people representing 3.7% of the population of the country and ranks the voivodship 12 among 16 voivodships of Poland. The two urban counties (towns with the status of a county) are jointly populated by 21% of the population of the voivodship (Tab. 1). Those are the centers with the major enterprises offering employment, modernized infrastructure and housing resources, which translates into the most favorable living conditions in the region. At the same time the two urban counties in Warmińsko-Mazurskie voivodship are the leading centers of population concentration as more than a half of the counties in the voivodship are twice less populated than the towns with the status of counties.

In the Polish society young people, who want to become independent, present the highest demand for housing units. Independent residence is one of the manifestations of that independence. People aged 20–34 years represented 25% of the population of Poland and Warmińsko-Mazurskie voivodship during the years 2005–2008 (Tab. 2). That percentage increases slightly in urban counties (in Olsztyn it was 28% in 2008). This also translates into the diversified demand for housing type. The beginning of the adult life involves, in some cases, education at the tertiary level, which in most cases involves search for a housing unit for rent. After completing the education and starting a job the graduates start searching for own housing units at both the primary and the secondary market. The intensification of the independent residence of households is particularly important in those circumstances.

Table 1

Population of Warmińsko-Mazurskie voivodship counties in 2008

County	Population
Węgorzewo	23 395
Gołdap	26 441
Nidzica	33 605
Olecko	34 194
Lidzbark	42 602
Braniewo	43 168
Nowe Miasto	43 673
Mrągowo	50 184
Elbląg	56 410
Giżycko	56 652
Pisz	57 306
Bartoszyce	60 427
Działdowo	65 150
Kętrzyn	65 327
Szczytno	69 309
Ełk	85 857
Iława	90 312
Ostróda	104 658
Olsztyn	115 822
Elbląg City County	126 439
Olsztyn City County	176 142
Warmińsko-Mazurskie voivodship	1 427 073

Source: Bank Danych Regionalnych GUS, 2009 (Regional Data Bank, Central Statistical Office)

Table 2

Population, total and aged 20–34 years in Warmińsko-Mazurskie voivodship, in urban counties of Warmia and Mazury and in Poland during the years 2005–2008 ('000)

Item	Year							
	2005, including:		2006, including:		2007, including:		2008, including:	
	total	20–34	total	20–34	total	20–34	total	20–34
Poland	38 157	9 178	38 125	9 253	38 115	9 284	38 135	9 291
Warmińsko-Mazurskie	1 428	345	1 426	349	1 426	351	1 427	354
Elbląg City County	127.2	31.1	126.9	31.3	126.7	31.3	126.4	31.0
Olsztyn City County	174.4	48.2	174.9	48.6	175.7	48.8	176.1	48.9

Source: Bank Danych Regionalnych, GUS 2009.

Despite the higher age at which marriages are solemnized and the age at which the family decides for having children, the number of marriages solemnized during the years 2005–2008 increased continually (Tab. 3). This is related to the generation that represents the echo of the demographic peak, which during those years was taking the marital and reproductive decisions. In the voivodship the number of solemnized marriages in 2008 increased, as compared to 2005 by over 2000. In Olsztyn, during the years 2007–2008, it exceeded 1000. Favorable dynamics can also be found in Elbląg, where the number of marriages solemnized during the period of 2005–2008 increased by over 150.

Table 3

Number of marriages solemnized in Warmińsko-Mazurskie voivodship, in urban counties of Warmia and Mazury and in Poland during the years 2005–2008

Item	Year			
	2005	2006	2007	2008
Poland	206 916	226 181	248 702	257 744
Warmińsko-Mazurskie	7 810	8 401	9 534	10 009
Elbląg City County	645	737	855	809
Olsztyn City County	929	903	1 057	1 094

Source: Bank Danych Regionalnych, GUS 2009.

The natural population increase is another demographic factor providing the picture of social transformations and the consequential implications. During the years 2006–2008 the number of live births in Poland again exceeded the number of deaths (Tab. 4). This was a consequence of reversing the negative trend of decrease in the number of births, which still has socioeconomic consequences for the future generations[1].

Table 4

Natural increase of population in selected territorial units during the years 2005–2008

Item	Year			
	2005	2006	2007	2008
Poland	-3902	4558	10 647	35 100
Warmińsko-Mazurskie	2355	2494	2696	3528
Elbląg City County	-98	-62	-58	-5
Olsztyn City County	206	362	398	470

Source: Bank Danych Regionalnych, GUS, 2009.

[1] Increasingly often critical opinions concerning the leading role of the natural increase of population in shaping the demand for housing, mainly in urban agglomerations can be encountered. For wider discussion see: Śleszyński P., 2007. *Możliwości prognozowania popytu mieszkaniowego w świetle dostępnych danych*. Problemy Rozwoju Miast, 3: p. 29.

During the period covered, growing natural increase of population was recorded in Warmińsko-Mazurskie voivodship. This applies in particular to Olsztyn, which systematically records positive results in the number of births. The town of Elbląg should be positioned in one of the last places in the ranking covering the voivodship. Despite the increasing trend, however, the higher number of deaths than births continued there, which positions that county in one of the lowest positions in the voivodship. Analyzing the above data it should be assumed that the following years will represent a breakthrough for that town and that they will allow recording a surplus of births.

The problem of availability of housing units is closely linked to the mobility of population that can be estimated on the base of the values for the internal and external (emigration) migration. The causes of migration that can be related to the statistical data confirm also the observations from many decades concerning movement of the population from rural to urban areas, particularly in slower developing voivodships, both within the country and in the form of movement abroad. The internal migrations are linked, first of all, to the decrease in profitability of agricultural production, movement in search for a job (appearance of new labor markets) and the fact that graduates of tertiary and secondary schools stay in towns (Tab. 5) to use opportunities not available in the earlier places of residence (WERNER 2008 p. 73).

Table 5

People working in the main place of employment in Warmińsko-Mazurskie voivodship, the urban counties of Warmia and Mazury and in Poland during the years 2005–2008 (natural numbers)

Item	Year			
	2005	2006	2007	2008
Poland	7 835 758	8 038 145	8 372 169	8 624 189
Warmińsko-Mazurskie	262 599	268 085	277 461	276 642
Elbląg City County	29 338	29 313	30 996	28 626
Olsztyn City County	58 874	60 431	62 974	63 279

Source: Bank Danych Regionalnych, GUS 2009.

The region of Warmia and Mazury fits those characteristics. During the period covered the balance of migrations, both internal and external, for the voivodship was negative (Tab. 6). The relatively most favorable image in that aspect is obtained for the Olsztyn City County. The prospects for improving the living standards of Warmińsko-Mazurskie voivodship seem in those circumstances the leading argument for mobility. Migrations stimulate the demand for housing. The balance of migrations is the effect of the strong inflow of residents – particularly in the suburban zones of the largest towns,

which is linked to the phenomenon of suburbanization – and the level of wages. From that perspective the position of Elbląg City County is surprising. Continually high negative balance of migrations might be the reason for conducting in depth analyses.

Table 6

Emigration and immigration of the residents in Warmińsko-Mazurskie voivodship, the urban counties of Warmia and Mazury and in Poland during the years 2005–2008 (natural numbers)

Item	Year							
	2005		2006		2007		2008	
	emigration	immigration	emigration	immigration	emigration	immigration	emigration	immigration
Poland	422 779	422 779	473 548	473 548	511 254	511254	405474	405474
Warmińsko-Mazurskie	19 316	17 055	21 906	18 778	23 158	20 417	19 310	16 950
Elbląg City County	1 075	720	1 160	847	1 248	952	1 096	784
Olsztyn City County	2 007	2 188	2 113	2 405	2 414	2 570	2 141	2 139

Source: Bank Danych Regionalnych, GUS 2009.

Housing conditions in housing units completed for use during the years 2005–2008

The statistical deficit of housing units in Poland is currently estimated at ca. 1.6 million housing units (ŚLESICKA 2007 p. 69). In 2008, over 4 housing units were competed for use per 1000 residents in Poland (Tab. 7). This, undoubtedly, is a positive phenomenon although it is still does not suffice to satisfy the needs of the population. The increase at similar level can be seen in Warmińsko-Mazurskie voivodship. The number of housing units completed in Olsztyn looks particularly well. In every case it exceeds twice the value of the indicator for the country and for the voivodship. Olsztyn, as the largest town in the region, with the largest population recorded the highest number of housing

Table 7

Number of housing units completed for use per 1000 residents in Warmińsko-Mazurskie voivodship, the urban counties of Warmia and Mazury and in Poland during the years 2005–2008

Item	Year			
	2005	2006	2007	2008
Elbląg City County	2.4	1.6	4.0	2.7
Olsztyn City County	6.4	7.4	9.4	8.9
Warmińsko-Mazurskie voivodship	3.1	3.1	4.1	4.8
Poland	3.0	3.0	3.5	4.3

Source: Bank Danych Regionalnych, GUS, 2009.

units completed for use during the years 2005–2008. The situation in Elbląg City County is different. In Elbląg much fewer housing units per 1000 residents were completed for use than in Olsztyn and also fewer than in the voivodship. New housing units are not established sufficiently quickly to satisfy the housing needs of the second largest concentration of population in Warmińsko-Mazurskie voivodship.

The relation of the number of housing units completed for use to the number of solemnized marriages is one of the basic indicators of housing[2]. During the years 2005–2008, in Poland, 550 to 640 housing units per 1000 solemnized marriages were completed for use (Tab. 8). On that base it can be concluded that only a half of the new households has a chance of living on their own in own flat. Warmińsko-Mazurskie voivodship ranks slightly better. The prospects for the newly wed from Olsztyn look particularly well as concerns the housing because the values there are more than twice higher. In Elbląg the situation is different. In 2006 only 282 housing units per 1000 solemnized marriages were completed for use there, which hinders gaining independence significantly. During the other years that indicator increased slightly, but it continued to be highly unsatisfactory.

Table 8

Number of housing units completed for use per 1000 marriages solemnized in Warmińsko-Mazurskie voivodship, the urban counties of Warmia and Mazury and in Poland during the years 2005–2008

Item	Year			
	2005	2006	2007	2008
Elbląg City County	467	282	599	425
Olsztyn City County	1 205	1 439	1 564	1 438
Warmińsko-Mazurskie voivodship	570	532	612	683
Poland	551	510	538	641

Source: Bank Danych Regionalnych, GUS, 2009.

The average usable area of a housing unit completed for use during the years 2005–2008 in Poland was relatively constant. Similar conclusions come to mind from analysis of the usable area of the housing unit in Warmia and Mazury (Tab. 9). On the other hand, the average usable area of the new housing unit in Olsztyn increases gradually. During three years that was an increase by slightly less than five square meters. The largest new housing units were competed for use in Elbląg in 2005 (over 105 m2 of usable area). With each consecutive year the average area of the housing unit in that town

[2] The currency of that indicator is rightly objected to by, e.g. Paweł Hut, 2007. *Współczesna kwestia mieszkaniowa w Polsce; geneza, uwarunkowania, perspektywy rozwiązań.* In: *Polityka społeczna,* Ed. G. Firlit-Fesnak, M. Szylko-Skoczny. PWN, Warszawa, p. 297.

decreased, which might be a consequence of changes in the structure of housing construction by investors, particularly in 2008.

Table 9
Average usable area of a housing unit completed for use in Warmińsko-Mazurskie voivodship, the urban counties of Warmia and Mazury and in Poland during the years 2005–2008 (m^2)

Item	Year			
	2005	2006	2007	2008
Elbląg City County	105.2	94.3	77.9	81.1
Olsztyn City County	68.5	66.9	61.5	73.1
Warmińsko-Mazurskie voivodship	93.8	88.8	84.1	90.4
Poland	105.3	101.6	105.6	104.0

Source: Bank Danych Regionalnych, GUS, 2009.

The average number (Tab. 10) and area of rooms (Tab. 11) in housing units completed for use during the years 2005–2008 was also subject to detailed analysis. Compared to the earlier construction projects, housing units completed for use during that period have, in average, more rooms. This is the consequence of increasing the usable area of the housing unit, which, understandably, translates into a larger number of rooms per housing unit.

Table 10
Average number of rooms in the housing units completed for use in Warmińsko-Mazurskie voivodship, the urban counties of Warmia and Mazury and in Poland during the years 2005–2008

Item	Year			
	2005	2006	2007	2008
Elbląg City County	4.3	4.2	3.7	3.6
Olsztyn City County	3.4	3.4	3.3	3.5
Warmińsko-Mazurskie voivodship	4.2	4.0	4.0	3.9
Poland	4.4	4.2	4.3	4.3

Source: Bank Danych Regionalnych, GUS, 2009.

Comparing the usable area of housing units completed for use during the years 2005–2008 it must be noticed that in every territorial unit the newly completed housing units have rooms with the average area exceeding 20 m^2 (except in Olsztyn), while the average room area in the earlier housing resources in no case exceeded 20 m^2. That clearly positive phenomenon offers the opportunity of reversing the situation where housing units with small usable area and with the minimal number of rooms represented around a half of the housing units in the country (see: KORNIŁŁOWICZ 2005, p. 72).

Table 11

Average room areas in the housing units completed for use during the years 2005–2008 in Warmińsko-Mazurskie voivodship and urban counties of Warmia and Mazury (m^2)

Item	Year			
	2005	2006	2007	2008
Elbląg City County	24.3	22.2	21.3	22.7
Olsztyn City County	20.1	19.9	18.6	21.2
Warmińsko-Mazurskie voivodship	22.3	22.2	21.3	23.0
Poland	24.1	24.0	24.3	24.4

Source: Bank Danych Regionalnych, GUS, 2009.

Summary and conclusions

Among many problems of spatial diversification in the development of Poland underdevelopment of the eastern and northeastern voivodships has a significant position because of the economic and social disproportions between those areas and the remaining part of the country. This also applies to housing. Systemic backlog combined with poor infrastructure, difficulties in the labor market as well as status and equipment of the housing resources additionally highlights the complexity of socioeconomic situation in the analyzed areas. Residents of those voivodships face significant social issues that can contribute to their social marginalization or supportive to migration processes.

The demographic situation of Warmińsko-Mazurskie voivodship and its urban counties is favorable. In Olsztyn the natural increase of population increases continually. In the towns with the status of counties from that voivodship the numbers of solemnized marriages and of the people working increase systematically. In Elbląg and Olsztyn the people aged 20–34 years represent over 25% of the population.

Housing conditions in the two urban counties in Warmińsko-Mazurskie voivodship as compared to Poland and the entire voivodship are, according to the conducted survey, diversified. Olsztyn as the largest city in the voivodship is characterized by the increasing trend of the indicators characterizing housing. As a consequence it confirms that housing conditions in cities of Poland exceed the average for the country significantly. That position is confirmed by the intensity of housing construction. This is particularly well visible in the number of housing units completed for use per 1000 residents and 1000 solemnized marriages despite the continual immigration into the city. In the capital of the voivodship the increase in housing resources occurs with significant participation of individual construction as well as construction of housing units for sale and rent.

The position of Elbląg as compared to Olsztyn and Warmińsko-Mazurskie voivodship is strongly diversified. As the second largest concentration of population in the voivodship relatively large housing resources characterize it. Despite quite clear negative balance of migration its housing structure indicators are below the average. This is particularly well visible through the number of housing units completed for use per 1000 residents and per 1000 solemnized marriages, which are lower than the average values for both the country and the entire voivodship. It is worth noting that the shares of cooperative, company and social housing construction there are higher there than in Olsztyn.

During the years 2005–2008, favorable changes in the structure of Polish housing have been observed. Numerous housing units completed for use and improvement of housing conditions are, unfortunately, just the start of the necessary changes. Among numerous problems of Polish housing the issues of living standards and social housing deserve particular attention. The social housing construction is based on the assumptions considering the role of the State and territorial governments. Efficient housing policy, considering in a skillful way absorption of the EU structural funds for housing purposes (More in: ZYGIEREWICZ 2007) stabile socioeconomic situation and organizational-legal order of the State could become the stimulants for improvement of the housing conditions in the country, and as a consequence in Warmińsko-Mazurskie voivodship.

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IMPORTANCE OF HUMAN POTENTIAL IN OPERATION OF GASTRONOMY AND HOTEL SERVICES SECTOR ENTERPRISES

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K e y w o r d s: human potential, competences, gastronomy and hotel services sector.

A b s t r a c t

This paper discusses the issues of importance and role of employees in operation of gastronomy and hotel services sector enterprises from Warmińsko-Mazurskie voivodship. The main objective of the presented studies was to identify the needs in the human potential aspect in the covered sector that have important influence on the operation and development of entities from the gastronomy and hotel services sector. The studies showed, inter alia, that in the evaluation of competences of the employees the employers in most cases find that the employees possess competences at the required level and financing of vocational improvement of employees aiming at increasing the competitiveness of the enterprise was based on own resources of the enterprise mainly.

ZNACZENIE POTENCJAŁU KADROWEGO W FUNKCJONOWANIU PRZEDSIĘBIORSTW SEKTORA GASTRONOMICZNO-HOTELARSKIEGO

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S ł o w a k l u c z o w e: potencjał kadrowy, kompetencje, sektor gastronomiczno-hotelarski.

A b s t r a k t

W artykule poruszono kwestię znaczenia i roli pracowników w funkcjonowaniu warmińsko-mazurskich przedsiębiorstw sektora gastronomiczno-hotelarskiego. Głównym celem prezentowanych badań było zidentyfikowanie potrzeb w sferze potencjału kadrowego badanego sektora, które mają istotny wpływ na funkcjonowanie i rozwój podmiotów z branży gastronomiczno-hotelarskiej. Badania wykazały m.in., że w ocenie kompetencji pracowników pracodawcy najczęściej stwierdzają, że pracownicy mają kompetencje na wymaganym poziomie, a finansowanie doskonalenia zawodowego pracowników, mające na celu podniesienie konkurencyjności przedsiębiorstwa, opierało się głównie na zasobach firm.

Introduction

The economic results of enterprises, indifferent of the level of automation, informatization and application of state of the art technologies, etc. finally anyway depend on the human factor. The competences of the employees, their propensity to work hard and their involvement in development and current operation of the enterprise determine whether the enterprise matches the market requirements and whether its existence is not at risk.

In the contemporary world the market success of the company is determined by the exceptional configuration of its tangible and intangible assets while the employees and the managing staff play the role of both the causative and the executive agent of the necessary activities in that field. As a consequence, human resources allowing the given organization acquisition of organizational knowledge and setting the procedures as well as methods of flexible reaction to changing circumstances are the strategic competitive strength of the company allowing the victory in competitive combat and taking a good position in the market (MANIAK 2004, p. 185). S. Sudoł draws attention to the close ties between the resources (capital) of knowledge and the employees noticing that the resources of knowledge in the enterprise are not only the written down and materialized knowledge but also, and maybe first of all, the employees capable of creating knowledge (SUDOŁ 2006, p. 189).

As a consequence, the ability to create, acquire, integrate and use the resources of knowledge represents the condition for operational effectiveness of numerous contemporary enterprises. The resources of knowledge, at the same time, form the base for the resources of competences. Competences represent the foundation for achieving the competitive advantage, which relates directly to the utilization of the intellectual capital in the enterprise. The intellectual capital, understood as the "knowledge, qualifications, experience, vocational skills and other intangible elements", is becoming today the value that differentiates the company from its environment and allows it competing effectively in the market (NIEWĘGŁOWSKI 2008, s. 298). The above reasons and the major importance of the gastronomy-hotel services sector in the economy of Warmińsko-Mazurskie region gave the reasons for conducting the studies the results of which are presented in this paper.

Objective and scope of studies

Identification of the needs in the field of human resources potential in the gastronomy-hotel services sector in Warmińsko-Mazurskie voivodship that have significant influence on the development of business entities from that

sector was the main objective of the studies conducted in 2009. The detailed objectives of the studies included, e.g.:

– obtaining knowledge on the general and vocational qualifications currently in demand from employees in the gastronomy-hotel services sector;

– identification of the needs in the field of vocational training of employees.

The National Official Register of the Entities of the National Economy (REGON) according to which in 2009 the number of entities operating in the sector of gastronomy-hotel services in Warmińsko-Mazurskie voivodship was 3346 entities was used for selecting the research sample of such entities. Out of the general population, 400 business entities, representing 12% of the entire population, were covered by the study. The layered draw was applied for selection of the test sample where 21 counties were used as the layers. From each county business entities were drawn at random using the random numbers. The share of the entities covered in the general number of entities in the county ranged from 9% (Gołdap, Nidzica, Ostróda and Szczytno counties) to 15% (City of Olsztyn). The differences in percentages of enterprises covered resulted from the difficulties caused by refusals to provide responses or the fact that in the given county the numbers (addresses) of entities drawn from the REGON database did not match the actual situation during the study. As a consequence the number of entities covered was increased in the counties with the largest numbers of the entities registered (urban counties of Olsztyn and Elbląg). The studies were conducted by applying the method of direct interview while the studies covered, among others:

– the competences of the employees (knowledge, skills, experience, personality characteristics, attitudes and behaviors of employees),

– needs for vocational improvement of employees (including shortages of personnel in individual vocations and the training needs),

– sources of financing for vocational improvement of employees,

– expectations concerning methods of support for gastronomy-hotel service sector enterprises;

– intensity of competition in the gastronomy-hotel services sector.

Results of studies

First, it was identified to what extent and what employees (with what competences) are in demand among employers from that sector. The analysis was conducted considering, among other, type of activity conducted, seasonality of operation, period of functioning in the market and employment. Among 400 entities covered, 184 indicated shortages in employment resulting from difficulties with finding appropriate employees. The cook was the vocation in

highest demand among the employees indifferent of the type of the conducted activity (68.5% of indications).

The shortage of personnel in that vocation dominated independent of the company's history in the market and independent of the company size expressed by employment. The needs related to that vocation also dominated indifferent of whether the business activity was year round or seasonal activity. Shortages in the vocation of a waiter were ranked by the entrepreneurs as second (32.1% of the total number of indications) while the demand for bartenders ranked third (21.7% of indications). As indicated by the analysis of the responses the enterprises covered are short, first of all, of the people responsible for the core business of the enterprise.

Table 1
Vocations in highest demand according to the employers from the gastronomy-hotel services sector (Warmińsko-Mazurskie voivodship)

Type of business	Cook	Waiter	Bartender
Hotel	52.0	32.0	28.0
Gastronomy	71.7	36.8	23.7
Agritourism	63.6	9.1	18.2
Bed and Breakfast	55.6	22.2	0.0
Holiday center	42.9	14.3	28.6
Camping	33.3	33.3	33.3
Other	50.0	16.7	25.0

n = 184; The percentages do not add to 100 as a consequence of the possibility of marking more than one response
Source: own work based on the studies.

The enterprises covered indicated shortage of auxiliary employees of, e.g. guarding service, technical service, etc. much less frequently. The responses also indicate low demand for employees with low qualifications or employees that require no special training, e.g. in hotels for cleaners, housekeepers, kitchen assistants, bakers, sweet bakers, etc.

In the evaluation of competences of the employees in individual enterprises the employees most frequently pointed out that the employees possessed competences at the required level (38.5% of the responses). Only 2.7% of the respondent companies evaluated the level of competences of their employees as unsatisfactory. The largest percentage of such responses came from agritourism enterprises (7.1%). Managers of hotels ranked the competences of their employees the highest (in total 53.4% of responses ranking competences of the employees as high or very high). Similar responses came from agritourism where 42.9% of the responses indicated high competences and 9.4% very high

competences. The competences of employees were ranked slightly lower at holiday centers (youth holiday camp centers) where 25% of the employees were ranked below standard; however, as a result of a small number of respondents in that segment (8 entities) it is hard to draw conclusions f wider nature from that.

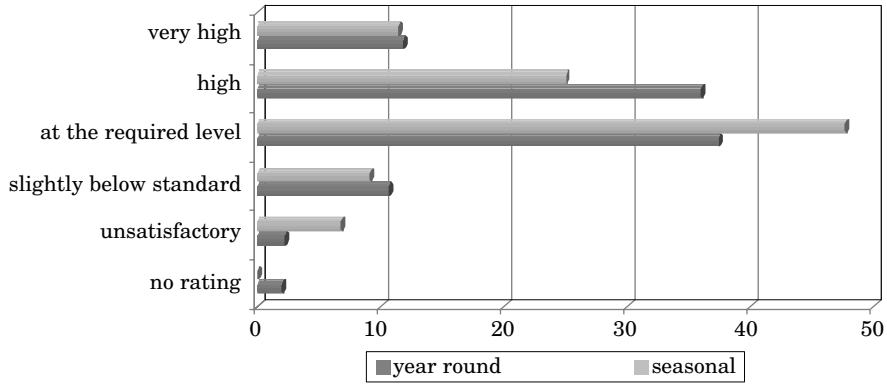

Fig. 1. Rating of competences of the employees depending on the time of activity in %
n = 400; year round = 356; seasonal = 44
Source: own work based on the studies.

Generally, however, the percentage of indications ranking competences of employees as very high was 11.8% only, although, at the opposite end of the scale, ranking of competences as unsatisfactory was even less frequent at 2.7% of the total number of responses while 1.7% of the respondents were not able to define the level of competences of their employees.

Responses concerning the competences of employees in the enterprises covered show no correlations with seasonal or year round operation, experience in business and the size of the enterprise. It can then be concluded that seasonality of operation, experience in the business and the employment have no major influence on the evaluation (Tab. 2). In all the enterprises indications at "high" level of competences and competences "at the required level" dominated.

Analyzing the responses concerning the need for improvement of specific competences depending on the vocation a trend that seems natural can be noticed. In the vocations where practical skills in performance of the vocation count and the frequency of contacts with the clients is lower (e.g. cook) the clear supremacy of skills over the other components of competences can be observed. On the other hand, where contacts with the customers are frequent (e.g. vocations of the waiter, bartender, reception clerk, sales assistant, etc.)

Table 2
Evaluation of competences (knowledge, skills, experience, personal characteristics, attitudes and behaviors) of employees (considering experience in the business and employment)

Evaluation of competences	Experience in business				Employment (number of employees)		
	up to 1 year	2–5 years	6–10 years	over 10 years	up to 9	10–49	50–249
	number of indications						
	24	111	95	170	287	110	3
	% of indications (n = 400)						
No evaluation	4.2	0.9	2.1	1.8	1.4	2.7	0.0
Unsatisfactory	4.2	4.5	1.1	2.3	2.8	2.7	0.0
Slightly below standard	8.3	14.4	12.6	7.1	10.5	10.9	0.0
At the required level	45.8	36	33.7	41.8	39	38.2	0.0
High	20.8	30.6	44.2	34.1	33.5	37.3	66.7
Very high	16.7	13.5	6.3	12.9	12.8	8.2	33.3

Source: own work based on the studies.

the components such as personality characteristics or attitudes and behaviors dominate over the skills. According to the respondents the cook should possess the largest knowledge and skills while in the vocation of the waiter the personal characteristics as well as attitudes and behaviors should be improved first of all.

Financing of vocational improvement of the employees in the respondent enterprises, according to the respondents, was based mainly on the resources of the enterprises (57.0%). Indications of the employer as the party covering all the direct costs involved in vocational improvement and the employee as the one covering the traveling expenses ranked second while indications that the employee covers all the costs or the direct costs of vocational improvement while the employer covers just the travel expenses were of marginal incidence.

As concerns saturation of the market with competing entities, 42.7% of the respondents indicated more than 10 enterprises as direct competitors in their locations and only 6.7% of the enterprises declared that they practically had no competition at all.

Obviously, the number of competing entities in itself does not determine the level of competition in the market. That is why in the studies the influence of competition on the business activity conducted was analyzed. It was found out that as much as 23.3% of the respondents indicated that the influence of the competition was insignificant (with 5-point scoring system where 1 means insignificant influence and 5 significant influence). While the responses were distributed evenly, the spread between the most frequent response (the

Table 3

Expectations of enterprises concerning support type

Expected support	Number of respondents	% of responses in relation to the number of respondents (n = 400)
In obtaining employees	110	27.5
In obtaining capital	221	55.3
In training of employees	191	47.8
In market studies	80	20.0
In promotion	209	52.3
Other assistance	5	1.2
No assistance	71	17.8

The percentages do not add to 100 as a consequence of the possibility of marking more than one response
Source: own work based on the studies.

insignificant influence) and the least frequent response (significant influence) was 6.9 percentage points only.

Aiming at increasing their competitiveness, the enterprises covered expected assistance from the lowest level of territorial government – the town and municipality administration offices. And although traditionally the respondents expressed the highest expectations in the field of financial assistance, the assistance in training their own employees was ranked third.

It is also worth noticing that every fifth enterprise covered did not expect any assistance and wanted to cope with the market on its own (or maybe did not believe in any assistance and that is why it indicated that option).

Conclusion

The results of the conducted studies allow concluding that:

– the people practicing in the vocations of a cook, waiter and bartenders were the most wanted employees in the analyzed sector (according to the respondents there is also urgent need for vocational improvement in those vocations);

– the difficulties with obtaining employees with adequate qualifications are most painfully experienced by holiday centers (organizing youth holiday camps) – as much as 86% of indications from that group of enterprises;

– in evaluation of the competences of employees of the individual enterprises the employers usually conclude that the employees possess competences at the required level;

– financing of the vocational improvement of employees (according to the respondents) was based mainly on the resources of enterprises;

– the influence of competition on the conducted business activity was evaluated (on the base of the opinions expressed by the respondents) as moderate;

– to improve own competitiveness the enterprises covered in most cases expected assistance from the lowest level of the territorial government – that is town and municipality administration offices. That assistance, according to them should cover support in obtaining capital, promotion and training of employees.

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THE ROLE OF BANKS IN UTILIZATION OF THE EU FUNDS

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K e y w o r d s: borrowings, financing, EU grants, development of enterprises.

A b s t r a c t

The favorable economic policy can trigger positive reactions from the business entities resulting in increasing the level of investments (capital, technological, information as well as in knowledge) and economy competitiveness. The level of investments depends, among others, on accessibility of investment funding. In most cases, enterprises fund the developmental investments with own as well as external sources. Use of the EU funds in business development reduces the costs of investment considerably because it is possible to obtain up to 50% grant-in-aid after completing the modernization project. Enterprises must, however, fund the investment project first to be able to apply for reimbursement of a part of the developmental expenditures. Until that time they use the support of commercial banks, which take active part in programming and utilization of funds allocated for Poland. This paper shows the role of banks in utilization of the EU funds allocated for development of Polish enterprises.

ROLA BANKÓW W WYKORZYSTANIU ŚRODKÓW UNIJNYCH

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S ł o w a k l u c z o w e: kredyty, finansowanie, dotacje unijne, rozwój przedsiębiorstw.

A b s t r a k t

Sprzyjająca polityka gospodarcza może wywoływać pozytywne reakcje podmiotów gospodarczych, skutkujące zwiększaniem inwestycji (kapitałowych, technologicznych, informacyjnych oraz w wiedzę) i podwyższeniem konkurencyjności gospodarki. Poziom inwestycji zależy m.in. od dostępności środków inwestycyjnych. Przedsiębiorstwa finansują inwestycje rozwojowe najczęściej środkami własnymi oraz obcymi. Wykorzystanie środków unijnych w rozwoju firm znaczne obniża koszty inwestycji, ponieważ istnieje możliwość uzyskania do 50% dotacji po zakończeniu projektu modernizacyjnego. Przedsiębiorstwa, by móc ubiegać się o zwrot części nakładów rozwojowych, muszą najpierw inwestycję sfinansować. Do tego czasu korzystają ze wsparcia banków komercyjnych, które biorą aktywny udział w programowaniu i wykorzystaniu przeznaczonych dla Polski kapitałów. W artykule ukazano rolę banków w wykorzystaniu środków unijnych zaplanowanych na rozwój przedsiębiorstw w Polsce.

Introduction

Polish enterprises are now subject of tempestuous socioeconomic transformations. As a consequence of the globalization typical threats resulting from participation in the international markets appeared, competition in the local market changed into competition in the global market while opportunities for more rapid development also appeared. Insufficient knowledge on the competitive international market as well as lack of sufficient capital for radical technical and technological transformations, necessary to compete in the global market, are among the major threats. Those threats are compensated for with the public aid from the EU and Polish budget in the form of grants supporting the universal development of enterprises. The procedures for acquiring such grants require the businessmen the thorough analysis of marketing, financial and economic situation and also planning of investment tasks. Banks have an essential role to play in the process of application for the EU funds by enterprises.

The aim of research is to show the role of banks in utilization of the EU funds in Poland. The hypothesis was formulated that without participation of banks the enterprises would not be able to use the EU funds on innovative development efficiently. The verification of the research problem was conducted on the basis of the analysis of the EU projects; funding by PKO Bank Polski SA in Warsaw during the years 2004–2007. The comparative materials obtained from the bank headquarters were processed by means of the statistical methods. The types and quality of bank products, number as well as amounts of originated loans were investigated.

Credit activity of banks

The economic function of banks is the mediation in the transforming loans obtained from business entities (which do not have the potential and knowledge in the field of own savings optimal allocation) into bank credit/loans and other capital investments generating profit. Providing mediation services between business entities is favorable economically and socially as assuring financial as well as economic order and safety. Banks, facilitating the flows of capital between entities, do this with concern and feeling of responsibility for the money deposited by the society. Banks have the skill of assessing and selecting the optimal structure of assets that is maintaining the proportions between highly liquid assets and long – term assets with lower liquidity, but generating higher profits. The Central Bank takes care for the safety of deposits and the depositaries confidence in the commercial banks and monet-

ary system and, as the last financial authority, it is the warrantor in case of simultaneous withdrawal of deposits from the commercial banks during the self-propelling panic (BEGG et al. 2000, p. 128). The European monetary system is stabilized additionally by the Directive 2006/48/EC of European Parliament and Council from June 2006. The directive regulates the level and structure of own funds in banks, it standardizes the legislative principles in the field of monetary system safety in the Member States as well as harmonizes the mutual recognition of permits and systems of precautionary supervision (PYKA 2008, p. 141). Reduction of credit activity risk results from combining different forms of financial mediation into financial conglomerates. At the same time the problem of *crossborder infection* appears (it can have the economic or psychological basis) for the countries, in which the sector of financial services is dominated by foreign financial conglomerates (IWANICZ-DROZDOWSKA 2007, p. 98). The results of research encompassing 602 European banks during the years 1996–2002 show that credit risk could be reduced by increased diversification of products being under control in relation to the bank risk, and that the relationship between the level of commissions and bank fees and the protection against the risk of capital loss was weak (LEPETIT et al. 2008, p. 2334). The relations between the European and the American supervision of the financial system also gain increasing importance. The common monetary policy in all EU Member States also mitigates the economic fluctuations (SOBOL 2005, p. 235).

Commercial activity of banks involves utilization of specialized knowledge and experience to purchase a diversified portfolio of assets (BEGG et al. 2000, p. 108). Commercial banks are organizations oriented on profit generated as the difference between the costs of capital borrowed (the costs of opening and maintaining the accounts and deposits and involved in charges on the borrowed capital) and the incomes obtained from the margin on sales of long-, medium- and short-term credits[1]. Banks are subject to comprehensive economic appraisal based on classical methods of profitability, financial liquidity and solvency assessment as well as the analysis of the risk-adjusted profitability (RAROC). The RAROC is the measure of the effectiveness of transaction exposed to risk (PYKA 2008 p. 127). Transactions burdened with the higher risk require higher capital protection and the other way round. To meet the needs of the banks, the investment projects are evaluated by means of simple – statistical methods (return period, rate of return, break-even point, financial liquidity, etc.) as well as complex – dynamic methods (discount), involving computation of the Net Present Value (NPV), Net Present Value Ratio

[1] A simplification was made represented by dismissing other than loans to enterprises sources of bank income.

(NPVR), Internal Rate of Return (IRR) as well as Modified Internal Rate of Return (MIRR) (WIND 2008, p. 221–230). Banks consider two enterprise risk measures – Earning at Risk (EaR) as well as Cash flow at Risk (CfaR) (JAJUGA, JAJUGA 2007, p. 337).

Bank credit risk is also essential for the business entity applying for investment project capital support[2]. The credit risk results from evaluation (standing) of the previous activity of the enterprise as well as the rating of the planned project based on the marketing, financial and economic analysis of the credit period and the transaction amount, legal protection and currency risk (WIATR 2008, p. 202). The enterprise that takes a development decision involving use of external capital, also assumes the risk of increase in operational costs, resulting in the increase of marginal cost and prices of the goods produced. The Weighted Average Cost of Capital (WACC) at company level results from the formula (JAJUGA, JAJUGA 2007, p. 336):

$$\text{WACC} = w_d\, k_d\, (1 - T) + w_d\, k_d + w_p\, k_p + w_e\, k_e,$$

where:
w_d – the share of external capital,
w_p – the share of capital from privileged actions,
w_e – the share of own capital,
k_d – the cost of external capital,
k_p – the cost of capital from privileged actions,
k_e – the cost of own capital,
T – rate of income tax paid by the company.

There are fixed and variable interest rate loans. Fixed interest means, that it will remain the same during the entire payoff period independent of the fluctuations in the market interest rates. The banks very rarely agree to such an option, because of excessively long payoff period. They establish the fixed interest rate for a period shorter than loan maturity. In case of the variable interest rate loan the amounts of installments change with the interest rates. Those interest rates are:

– for the PLN – Warsaw Interbank Offered Rate (WIBOR) monthly, 3-months and 6-months;

– for the indexed currencies – London Interbank Offered Rate (LIBOR) monthly, 3-months and 6-months.

Company, which tries to obtain an investment loan should have existed in the market for at least one year, although it happens that banks fund the

[2] The considerations were limited to credit risk connected with the development of enterprises.

investment projects of younger enterprises. The enterprise must also have at least 20% of own means for the project to receive the loan funding. This represents a serious barrier for enterprises, particularly during the initial period of their activity. The loan is usually originated for a specific purpose only, and it is not possible to change it. The banks usually require presentation of the project feasibility study. Creditworthiness of the borrower is analyzed in detail; every bank conducts it according to its own methodology. The current market situation in a given business sector as well as the incomes of the future periods (the business plan forms the basis of their assessment) also influence the creditworthiness. The bank analyzes both the potential of firm in positioning itself in market, and the risk involved; moreover it estimates the possible incomes. During evaluation of the enterprise the financial documents such as the: balance sheet, profit and loss statement as well as the tax declarations are analyzed. Also profitability, financial liquidity, rotation of receivables, liabilities, stocks and the change in those indicators over the period set by the bank are analyzed. During the investment loan originating procedure, the banks conduct in depth studies on the capacity of the enterprise to repay the loan from its current earnings, considering the additional revenues from the investment planned to the limited extent only. This is a major obstacle in obtaining the funds and it is a symptom of high caution and distance in the banks; approach to the investment projects that are the subject of their lending. Thus, creditworthiness is the other barrier for developing enterprises seeking funds for investments. Low creditworthiness is often the result of tax policy assumed by the enterprise, which is based on inflating the costs to benefit from the shield effect.

Using the external capital to increase the return on equity (obtaining the financial leverage effect) depends on the relation between the interest rates on the external capital and the increase in the operational profitability of assets (PIASECKI 2001, p. 467). According to ADAMEK (2006, pp. 18–19) short-term loans are of major importance in the debt structure of the SMEs, which results from the:

– borrowing mentality of the enterprise owner;

– linking of that form of capital needs funding with the SME trade cycle and investments process;

– limiting the time during which the enterprise is under the control authority of the lending institution;

– minimization of conflict areas between pursuance of the owner of the business entity to maintenance of previous independence level and rights of the external capital owner during the loan maturity period;

– higher risk of loss of the financial balance during the current business activity, than is the case for a large enterprise;

– short-term loan function of compensating for the lack of rational policy and financial planning.

According to PKPP Lewiatan, the main obstacles hindering use of bank loans are: the level of collateral required, costs of borrowing the capital and aversion of banks to originating loans for SMEs (Fig. 1).

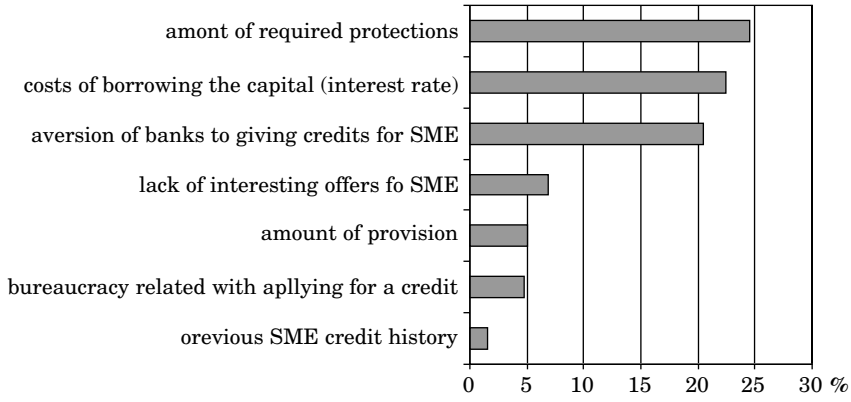

Fig. 1. Main barriers to using bank loans by enterprises
Source: prepared on the basis of: *Monitoring kondycji sektora MSP 2007*, PKPP Lewiatan.

The central bank Lombard credit rate determines to a significant extent the level of costs for the investment capital borrowed by enterprises from commercial banks. Table 1 presents a significantly more favorable situation in Poland in 2007 than in 2000 as the interest rate in case of Lombard credit decreased from 23 to 6.5% and it is about 1.5 percent points higher than the average interest rate in the EU and about 2% higher than in the Czech Republic, Denmark and Sweden. The lowest interest rate (0.4%) was recorded in Japan in 2006.

Table 1

Interest rate of Lombard credit of central banks in selected countries (in %)

Country	2000	2001	2002	2003	2004	2005	2006	2007
European Union	5.75	4.25	3.75	3.00	3.00	3.25	4.50	5.00
Czech Republic	7.50	5.75	3.75	3.00	3.50	3.00	3.50	4.50
Denmark	5.40	3.60	2.95	2.15	2.15	2.40	3.75	4.25
Poland	23.00	15.50	8.75	6.75	8.00	6.00	5.50	6.50
Sweden	4.75	4.50	4.50	3.50	2.75	2.25	3.75	4.75
Hungary	13.75	11.25	9.50	13.50	10.50	7.00	9.00	8.50
Great Britain	6.00	4.00	4.00	3.75	4.75	4.50	5.00	5.50
USA	6.50	1.75	1.25	1.00	2.25	4.25	5.25	–
Japan	0.50	0.10	0.10	0.10	0.10	0.10	0.40	–

Source: prepared on the basis of: http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/, 2008, (–) – no data.

Bank lending and investments of enterprises in Poland

The influence of interest rate on the development of enterprises is correlated with the investments in the economy. The investment outlays in enterprises in 2000–2006 are presented in Table 2. The data indicate that the years 2000–2003 were characterized by a decrease in replacement investments by 23.5% (from PLN 97.8 to 74.8 billion). The reaction of micro-enterprises was the weakest as they reduced the level of investments PLN 2.1 billion (they were influenced by the market contraction the least – 17.2 %). Small enterprises decreased the level of investments the most, by as much as 27.7% (i.e. by PLN 3.3 billions), medium sized enterprises by PLN 5.4 billion (24.9%), and large enterprises by over PLN 10.3 billion (19.8%). The investors; activation occurred in 2004 (Poland accession to the EU) and since that time the investment outlays in enterprises have increased. The data also indicate that investment outlays exceeded the level of 2000 by PLN 12.9 billion only in 2006, when they amounted PLN 110.7 billion. The structure of the bank loans share in funding the developmental projects of enterprises and current activity is also presented in Table 2. It can be concluded that the year 2000 was characterized by a high share of credits in the investment outlays (investments – PLN 97.8 billion and total originated loans – PLN 117.4 billions). Since then the funding of current activities has increased as the number of loans originated increased by PLN 3.8 billion while the investment outlays decreased by PLN 20.3 billions in 2001. That trend develops until 2004 and then the investments increase by PLN 9.1 billions while the amount of loans decreased by PLN 5.1 billion. As of that year the development outlays of enterprises as well as the amount of bank loans have increased steadily.

Table 2
The investment outlays in enterprises by sector and loans originated by banks in Poland during the years 2000–2006 (billions PLN)

Item	2000	2001	2002	2003	2004	2005	2006
0–9 (micro-)	12.2	10.3	10.0	10.1	10.1	11.4	11.4
10–49	11.9	8.3	7.6	7.6	9.5	9.4	12.2
50–249	21.7	15.9	15.5	15.3	18.3	19.9	25.1
Over 250	52.0	43.0	42.4	41.7	46.0	50.4	62.0
Investments (general)	97.8	77.5	75.6	74.8	83.9	91.1	110.7
Loans originated by banks	117.4	121.2	121.9	124.8	119.7	122.9	139.7

Source: prepared on the basis of the report „Przedsiębiorczość w Polsce 2007", www.mg.gov.pl and www.nbp.pl, 2008.

PKO Bank Polski in creating better utilization of EU funds

During the years 2004–2007, PKO Bank Polski SA originated loans exceeding PLN 3.0 billion to more than 2000 enterprises (representing more than 33% of all loans originated by the banking system in Poland to support the EU projects' financing). The bank supports utilization of the EU funds with the bank product called the European Program, which helps the beneficiary at every stage of the process of applying for the EU aid funds. It proposes the enterprise preparation of the grant application, applying, project evaluation and signing the grant agreement as well as lodging the request for payment and disbursement of the funds. The bank also helps the contractors of the beneficiary (contractors, subcontractors and suppliers of services, works and goods) that is the final recipients of the grant funds. The European Program creates the conditions that enable the beneficiary meeting the requirements of the refinancing contract, that is:

– securing of the sources of funding;

– performance of the full content of the project according to the schedule of works and expenditures;

– implementation of the project (all its stages) and its completing within the time defined in the refinancing contract and the schedule of works and expenditures;

– making all project payments as non-cash payments using the banking account;

– documentary evidence of expenses in required format for the given undertaking;

– documentary evidence of appropriate project tasks performance (works, goods and services);

– satisfying the other documentary requirements, e.g. specified in the managing authority guidelines such as presenting the expert appraisal proving that the device possesses the required characteristics/parameters.

The EU Guarantee Fund (Fundusz Poręczeń Unijnych) offers the SMEs the package consisting of 3 complimentary products and services: simple advisory services, bridge and co-finance loans, which are secured by the EU Guarantee Fund guaranty as well as project account. It offers the beneficiary the expert knowledge on project funding, help in establishing securities for the bank loan contracted and also the transparency of financial flows. The enterprise possessing neither sufficient own funds nor the sufficient securities to contract an investment loan can use the guarantee given by Bank Gospodarstwa Krajowego (bank servicing the public finance sector in Poland)

within the frameworks of the EU Guarantee Fund. Those instruments allow contracting the investment loans by enterprises with short credit history or assets that are not sufficient as security for the bank. The accounting for the project as well as disbursement of the subsidy is done through the project account.

PKO BP offers the package for implementation of "soft" projects to foundations and associations that intend implementing training or advisory projects with the EU funds. The bridge loan offers the beneficiary the financial liquidity during the project implementation, i.e. from spending the funds until reimbursement of those funds. PKO Bank Polski offers the bridge investment loan to the enterprises with good financial standing and the contract for project refund servicing (Kredyt pod dotację UE – credit from EU subsidy). As the security for repayment of this loan PKO BP accepts the transfer of receivables from the refinancing contract and own blank bill of exchange. The bank also applies limitation concerning the documentation such as: accounting and securities, that is bank support in the process of correct and timely project implementation, including making the payments and settlements. The basic bank products and services are:

– dedicated project account facilitating management of the project financial flows and their monitoring, which is also the destination account to which all the subsidy funds are transferred;

– documentary letter of credit, which is a kind of settlement between parties to a trade contract minimizing the transaction risk, which allows timely delivery of goods and services;

– bank guarantee being a kind of trade transactions security;

– different clearing – securing operations (also fiscal);

– working capital credit;

– guarantees and securities with the EU Guarantee Fund resources as well as loans from the global subsidy provided by the European Investment Bank as a supplement to the European Program offer.

Analysis of bank products, which support the utilization of EU funds by enterprises, shows that the majority of Polish banks possess special offers related to the EU funding (Tab. 3). The presented banks (PKO SA, BOŚ, Fortis Bank, Kredyt Bank, BRE Bank, BPH), are offering programs that facilitate utilization of the EU funds, similar to those offered by PKO BP. The differences in amount of commission, fees for loan promise as well as credit costs are very small.

Table 3

Bank products (in selected banks) supporting the utilization of the EU funds by enterprises

Bank	Offer	Loan origination fee	Loan promise issuance fee	Credit cost (interest rate)
PKO SA	Kredyt Unia	from 1%	0.25–0.5 %	fixed 19.25%, variable 7.05%
BOŚ	European Offer	1%, minimum 100 PLN	0.2–1.0%, 100 PLN	fixed minimum 8.13%, variable from 8.13 to 8.63%
Fortis Bank	Subsidy loan	2%	negotiations	2–5% + WIBOR 1M
Kredyt Bank	EU Investments	0.5–4.0% without promise, 0.3–3.0% with promise	0.25–1%, minimum 200 PLN	variable from 8,28 to 10.28%
BRE Bank	BRE Union	minimum 1000 PLN, maximum 2%	from 0.1%, minimum 1000 PLN	WIBOR + 2–3%
BPH	Euro Express Loan	from 2%, minimum 300 PLN	0.25–0.50%	9.50%

Source: prepared on the basis of: www.bankier.pl, 2008 and telephone interviews with bank managers.

Summary and conclusions

The situation of Polish enterprises as concerns access to the developmental capital has improved significantly, which is confirmed by the dynamics of investment expenditures growth as well as the number of originated loans. Banks adapted their offer to the possibilities and needs of the economy, particularly in the area of the EU funds utilization. In addition to co-financing of the EU projects, their offers also include consulting in preparation of the EU projects from the idea, through preparation of the grant application, the application process, project evaluation, signing the refinancing contract and applying for payment. The formulated hypothesis, that without participation of banks the enterprises would not be able to use the EU funds effectively on innovative development was verified positively.

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EVALUATION OF A POSSIBLE DEVELOPMENT OF THE TRANSPORTATION NETWORK IN POLAND SUPPORTED BY THE EU FUNDS

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K e y w o r d s: transportation network, condition of roads in Poland, EU funds, the Operational Programme Infrastructure and Environment.

A b s t r a c t

The article presents the current situation of the transportation system in Poland and discusses its possible development based on the EU funds. The Operational Programme Infrastructure and Environment is one of the operational programmes scheduled for the years 2007–2013, which will be a basic tool for obtaining the targeted aims of competitiveness and improving investment attractiveness of our country while taking advantage of the funds provided by the Cohesion Fund and the European Regional Development Fund. The financial support from the EU funds under the Operational Programme Infrastructure and Environment can reach at the most 85% of the eligible costs. What is characteristic of the OP Infrastructure and Environment is the integrated approach to the issues of basic infrastructure, which comprises the technical infrastructure and basic components of the social infrastructure. Another important element of this programme is that it favours activities that will beneficially affect the natural environment.

The Operational Programme Infrastructure and Environment provides an opportunity to perform large transportation projects but requires much effort on behalf of the programme's beneficiaries.

OCENA MOŻLIWOŚCI ROZWOJU SIECI TRANSPORTOWEJ W POLSCE Z WYKORZYSTANIEM FUNDUSZY EUROPEJSKICH

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S ł o w a k l u c z o w e: sieć transportowa, stan dróg w Polsce, fundusze unijne, Program Operacyjny „Infrastruktura i Środowisko".

Abstrakt

W artykule przedstawiono sytuację układu transportowego w Polsce oraz oceniono możliwości jej rozwoju z wykorzystaniem środków z funduszy unijnych. Program Operacyjny „Infrastruktura i Środowisko" na lata 2007–2013 jest jednym z programów operacyjnych, będących podstawowym narzędziem do osiągnięcia założonych celów wzrostu konkurencyjności i podniesienia atrakcyjności inwestycyjnej naszego kraju z wykorzystaniem środków Funduszu Spójności i Europejskiego Funduszu Rozwoju Regionalnego. Możliwość wsparcia finansowego ze środków UE w ramach PO IiŚ może wynieść maksymalnie 85% kosztów kwalifikowanych. Cechą charakterystyczną PO „Infrastruktura i Środowisko" jest integralne ujęcie problematyki podstawowej infrastruktury, która obejmuje infrastrukturę techniczną i zasadnicze elementy infrastruktury społecznej. Ważnym elementem programu są też działania wpływające w korzystny sposób na środowisko.

PO IiŚ jest szansą na realizację dużych projektów transportowych, ale stanowi jednocześnie duże wyzwanie dla beneficjentów programu.

Introduction

The current state of the transportation system in Poland is a big barrier to the development of trade, commerce and services. It also has a negative influence on the international exchange and decreases mobility of the residents. This barrier must be overcome if Poland is to become an economically successful country, both in Europe and globally, a country which uses efficiently its human resources. Another challenge is to maintain cohesion within the whole territory of Poland. The poor quality of inter-regional transportation links, including the ones between the largest metropolitan centres and towns in eastern Poland with one another and with the capital of Poland, is a limiting factor depressing synergistic effects and making it impossible to take full advantage of the existing potential, not only the economic one but also possible attainments in culture, sciences or education. The lack of territorial cohesion strengthens large development differences between particular regions in the country. The eastern areas of Poland, which belong to the poorest EU regions, have poor transportation links with the other parts of the country.

Because of the transit location of Poland, the transportation trails crossing our country must play an important role in servicing international transport between Western Europe and Russia, Ukraine or Central Asia, and, in a longer time perspective, South-Eastern Asia including China. These trails may also be important for transport between Scandinavia and the south of Europe.

Another currently important issue in the Polish transport is the increasing mobility of the Polish society. As a result, the number of passenger cars is growing rapidly. Over the past fifteen years, it has more than doubled, which alongside the low investment in roads causes increasing congestion, both in large cities and on regional and state roads.

In line with Council Regulation no 1083/2006 laying down general provisions on the European Regional Development Plan, the European Social Fund and the Cohesion Fund (general regulation), the Community Strategic Guidelines (CSG) on Cohesion were accepted on 6th October 2006, which determine the framework of the fund in 2007–2013. According to the CSG, each member country which is a beneficiary of the fund has prepared National Strategic Reference Frameworks (NSRF). Based on these documents, operational programmes have been prepared, which serve as a basic tool for executing the priority areas defined in the NSRG.

General overview of the Operational Programme Infrastructure and Environment

In line with the National Strategic Reference Guidelines, accepted by the European Commission on 7th May 2007, the Operational Programme Infrastructure and Environment is one of the basic operational programmes which are a primary tool for attaining the targets defined in the NSRG while utilising the means from the Cohesion Fund and the European Regional Development Fund. What is characteristic of the Operational Programme Infrastructure and Environment is that it integrates the technical infrastructure and the basic components of the social infrastructure. The starting point for a thus defined scope of the programme is the principle of maximising development effects, as conditioned by the integrated approach to the technical and social spheres in a common programme and technical path. Activities undertaken within the Operational Programme Infrastructure and Environment are complementary to the tasks executed under the 16 regional operational programmes as well as other operational programmes scheduled for the years 2007–2013, i.e. Innovative Economy, Human Capital, Development of Eastern Poland and programmes funded by the European Territorial Cooperation.

The Operational Programme Infrastructure and Environment is an important instrument serving the execution of the re-launched Lisbon Strategy, and the expenditures on the EU priority targets which fulfil the criteria defined in Article 9 (3) of Regulation no 1083/2006, establishing the general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund, constitute 66.22% of the total expenses.

In line with the declaration of the European Commission formulated at the summit in Göteborg, another important component of the programme would consist of activities producing beneficial influence on the natural environment. They include activities supporting reduction of climatic changes and increase in the importance of "green" energy, improvement and increased efficiency of

transport as well as its enhanced safety (for example, by promoting public and rail transport systems).

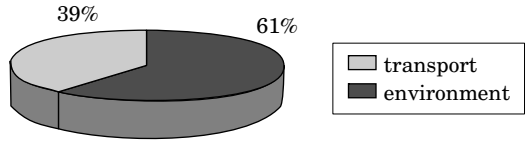

Fig. 1. Distribution of the funds from the Cohesion Fund between the transport and environment sectors

Source: The Operational Programme Infrastructure and Environment.

When considering the means available from the Cohesion Fund within the priority axes connected with investment projects in the transport and energy generation sectors which are environment-friendly, it can be concluded that such investment projects – far from being more difficult – contribute to the completion of one of the horizontal targets of the National Strategic Reference Guidelines "Improving the competitiveness of Polish regions and counteracting their social, economic and spatial marginalization". This conclusion is also confirmed by the level of support that environment-friendly investment projects receive. The investment projects which directly or indirectly add to environmental protection receive 39% of the total support derived from this Fund.

Diagnosis of the current situation in the transport sector

At present, the development of new technologies in transport, including improved efficiency of vehicles, reduced emission of exhaust fumes and noise, application of devices which protect natural environment or solutions based on telematics techniques in transport, is neglected in Poland. Despite the large research and development potential and quite remarkable achievements in this sphere, implementation of new technologies progresses very slowly. Among the major impediments are the insufficient financing and the need to make up for the backwardness, which until now has been a barrier halting development and implementation of new technologies to a desirable level. Recently, it has been possible to observe an increasing attention paid to this sphere, which – as it can earn support from EU aid funds – is now facing a potentially dynamic growth.

The Trans-European Network – Transport (TEN-T), defined in the decision of the European Parliament and Council on the community guidelines for development of a trans-European network of transport (1692/96/WE), com-

prises 4816 km of roads in Poland. They are Poland;s major road trails, quite heavily loaded with traffic, including transit vehicles. In Poland, the TEN-T priority projects as well as the major transport axes included in the communique of the Commission on extending the major trans-European transport to neighbour countries (COM(2007/32) are as follows: motorway A2 – part of the North Axis within the section Berlin – Warsaw – Minsk; motorway A4 – part of the Central Axis within the section Dresden-Katowice-Lviv; motorway A1 – part of the priority project 25 – motorway axis Gdańsk-Brno-Bratislava/Vienna.

The progress in the execution of priority project 25 in Poland is the following:

– a section of the A1 from Sośnica (Gliwice) to the state border (Gorzyczki) is being constructed with the support of funds from the Cohesion Fund for 2004-2006;

– preparation for constructing a section of the A1 between Toruń-Stryków, Stryków-Pyrzowice, Pyrzowice-Sośnica financed from the TEN-T fund is underway. Additionally, a private-public partnership system will finance construction of two sections of the A1, i.e. Gdańsk-Nowe Marzy and Stryków-Pyrzowice. It is planned that by the end of 2010 the Polish section of PP25 will have been completed over its whole length, from Gdańsk to the southern border of Poland.

The total length of roads in Poland, divided into categories, are:

– state roads – 18 287 km
– provincial roads – 28 476 km
– district roads – 128 328 km
– commune roads – 206 371 km

In total: 381 463 km (source: General Directorate of State and Motorways, GDDKiA, Research Department, as of 31 December 2005).

The density of the road network (81.2 km per 100 km^2) in Poland can be considered satisfactory. However, there is a problem of exhausting the flow capacity of roads and their increasing congestion. Another weakness of the Polish roads is their low standard of maintenance and a whole range of structural flaws. They are such grave drawbacks that one feels inclined to believe that they are most essential problems to be solved in order to develop the whole country.

The major drawbacks of the Polish road network are:

– **Lack of a coherent network of motorways and expressways**. In the mid-2006 there were 674 km of motorways and 257 km of expressways in Poland. The motorway tracts which are to connect the western border of Poland with Kraków and Warsaw are still incomplete. The targeted length of the planned network of motorways is about 2 thousand km and that of

expressways should reach about 5 thousand km. With respect to motorways and expressways, the most severe problems at present are: lack of connection between main metropolitan areas in Poland, lack or insufficient networks of such roads around metropolitan cities, lack of roads connecting the north with the south of the country (including a motorway running in this direction), lack of good connections between main cities in eastern Poland and Warsaw or other parts of Poland.

– **Poor maintenance of roads**. At the end of 2006, nearly half of the state roads was in a bad or unsatisfactory state of repair (both 23.4%) with just 53.2% being in good condition. This means that over half of the state roads in Poland should undergo major repairs immediately (bad condition) or in the nearest future (unsatisfactory condition). Although the current state of repair of the Polish roads is so bad, worth noticing is the fact that we have been able to stop further degradation of roads and since 2003 their condition has been slowly improving.

– **Roads in Poland are not adjusted to the load capacity of 115 kN/axis**. Most roads in Poland are adjusted to the standard load capacity of 80 kN/axis or 100 kN/axis. There are only 2 190 km of roads which can bear load of 115 kN/axis. At the same time, heavier vehicles (up to 115 kN/axis) are allowed to travel on international roads (5 500 km), causing their rapid degradation. In the Accession Treaty, Poland obliged itself to reinforce the roads and declared that in 2011 two and a half thousand km of roads would be capable of bearing load of 115 kN/axis.

– **Traffic in Poland often flows through urbanized areas**. It is a structural problem in Poland that state roads, often bearing a heavy flow of traffic including lorries, run across urbanized areas, which develop along road axes. This holds true for both cities and smaller towns. It is an aggravating situation for local residents, posing threat to their safety. It also slows down the transit traffic and limits the traffic flow capacity of roads.

– **Road traffic safety**. Another serious problem of road traffic in Poland is the low level of safety on Polish roads. In 2005, 5 444 people were killed and over 61 000 injured in road accidents. The number of fatal casualties of road accidents per 100 000 Polish residents was 14.3 in 2005, whereas in the countries which excel in road safety this index is 6. The mortality among road accident victims is also very high, reaching 11.2 casualties/100 accidents, in contrast to the average index of 2.7/100 accidents in other EU countries. In order to improve road safety it is necessary to redesign and reconstruct particularly dangerous sections of roads, to introduce changes to the way roads are designed (including a broader use of techniques applied to relax the traffic) and to undertake other actions in the sphere of infrastructure (e.g. build higher category roads).

Analysis and evaluation of the financial support received until present

The financial support has concentrated on finding an alternative to the excessively developing road traffic and on ensuring safety in Polish transport. Railroad investment projects have been executed, including the ones related with sea transport, especially short-distance sea connections. In respect of road safety, sections of motorways and expressways as well as state roads have been constructed or modernized, so that they are adjusted to load bearing capacity of 115 kN/axis, starting with the roads belonging to the TEN-T network and other roads with heavy traffic flow of lorries. Transit traffic through district capital towns has been improved, for example by building ring roads (The annual report on performance of the programme – the Sector Operational Programme Transport for the years 2004–2007, in 2006, Ministry for Regional Development, May 2007).

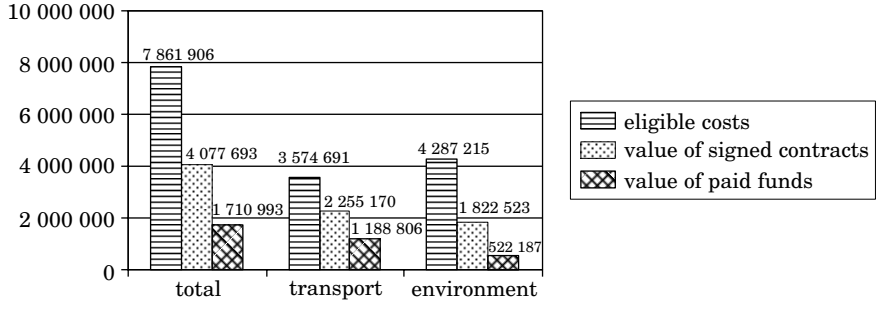

Fig. 2. The utilization of the Cohesion Fund at the end of December 2006
Source: Guidelines for expenditure eligibility under the Operational Programme Infrastructure and Environment; published by the Ministry for Regional Development.

The ratio of the funds spent by the beneficiaries to the allocated ones was 21.7%, with 33.26% in the transport sector and 12.18% in the environment sector. The ratio of the means received from the European Commission (liabilities) to the total amount of the subsidies from the Cohesion Fund was 23.9%, reaching 32.23% in the transport sector and barely 15.83% in the environment sector.

Conclusions drawn from the up-to-date implementation of projects within the sectors found in the Operational Programme Infrastructure and Environment

The conclusions drawn from the way infrastructural projects have been implemented until present suggest that the key role while executing investment projects can be ascribed to the degree to which these projects are prepared. Most of the problems encountered while implementing the projects are due to their poor preparation, and particularly to the lack of grounds, co-financing, technical, environmental or tender bid documentation. Additionally, other problems appearing during the implementation stage can be indicated, such as:

– frequent protests and appeals during public procurement procedures cause delays and make it necessary to repeat the procedures,

– difficulty conducting procedures for evaluation of the effect on environment whenever such an evaluation has not been completed during the project's preparatory stage and the European Commission has recommended one.

Considering the above, the Ministry for Regional Development has prepared a turnaround programme in order to facilitate the use of EU funds in 2004–2006. The above conclusions have also served to improve the preparation of a system for implementation of operational programmes in 2007–2013. The expected outcome of this system is to increase absorption of the funds.

Investment project effects

The vast majority of the EU funds has been allocated to infrastructural projects in the transport and environment sectors, which was due to the fact that large investment outlays were needed in these areas. As a result of completing projects co-financed from the structural funds, construction or modernization of a total of 1 631 km of provincial, district or commune roads, 283 km of water mains and 1 240 of sewage pipes took place.

The communication accessibility of regions has also been improved, in addition to the improved municipal transport systems, including public transport.

With respect to state roads, however, only 25.9 km of roads were modernized versus the 350 km planned to be modernized. The main reason for such low use of the EU funds is the specific nature of projects executed under the programme, which are characterized by a lengthy investment cycle, and the complicated legal system as well as institutional barriers. The financial support in this case has focused on finding an alternative option to the excessively developing road transport and on ensuring safety in transport in Poland.

Railroad investment projects have also been carried out – 19 km of railroads have been reconstructed, including the railroads serving sea transport, especially short-distance one. Regarding safety on roads, sections of motorways, expressways and state roads have been constructed or modernized so as to bring up their load bearing capacity to 115 kN/axis, starting with roads in the TEN-T network and other roads with heavy flow of lorries. The traffic flow through district towns has been improved by building ring roads. As regards implementation and monitoring of transport safety measures on state roads, dangerous spots have been removed and investment has been made in proper signposting, equipment and information, including emergency services on state roads; the traffic management system as well as road safety systems have been developed and the efficiency of road traffic police divisions has been improved.

The largest and the most efficient group of beneficiaries applying for subsidies to execute projects from the structural funds consists of local governments. The second biggest group comprises representatives of the state administration and units which perform tasks commissioned by the state administration and state budget units. The third largest groups of the structural funds beneficiaries include entrepreneurs.

Threats to the execution of projects

Early identification of potential threats to proper execution of the programme should enable us to decide what turnaround activities can be undertaken and indicate the areas which should be particularly carefully monitored within the monitoring process.

Identification of most severe problems and barriers has been performed as part of the assessment evaluation of the programme, based on the analysis of the conclusions formulated during social consultations dealing with the Operational Programme Infrastructure and Environment, group interviews held for each sector of the Operational Programme's interventions and verification of the results of the assessment evaluation of the National Strategic Reference Guidelines. Results of interviews among employees of institutions managing the Integrated Operational Programme Regional Development, the Sector Operational Programme Transport and the Cohesion Fund have also been taken into consideration. The thus identified problems and barriers can be divided into three groups:

– due to external conditions,
– due to internal conditions,
– related to the solutions accepted for the Operational Programme Infrastructure and Environment and problems which occurred during the implemen-

tation of the pre-accession and structural funds (1999–2000). This group has been further subdivided into problems identified during particular stages of the implementation of the programme:

- the programme's context,
- the application process,
- the programme's implementation process,
- the termination of the programme's execution.

Threats caused by external and internal conditions

The main threat to the execution of the programme, as indicated during the assessment evaluation of the OP Infrastructure and Environment, are the limited possibilities of using up the funds available from the programme due to the difficulty in finding suitable contractors to perform large investment projects. This in turn is due to a small number of potential contractors on the market. The supply of the services they offer is not proportional to the demand. The large deficit of qualified labour force, mainly managers, is caused by the fact that many experts work abroad. This results in lower quality of services available in Poland. Because of the shortage of "large construction companies", there is risk that large infrastructural projects will not be executed as scheduled. Another potential threat is that of tight budgets – both the central budget and local budgets may have limited resources to co-finance investment projects.

The barriers and problems stemming from the adopted solutions and experiences in Poland in terms of absorbing pre-accession and structural funds

With respect to *the context of the programme*, potential consequences of the complex structure of the programme have been implicated as a threat, which may involve excessively lengthy procedures as well as problems with communication and coordination. Another threat is created by the fact that regulations and procedures, which tend to be rather strict, change during the execution of the programme. Moreover, the number of experienced employees, especially in the early stages of the programme, may be insufficient. Finally, qualified staff may tend to leave due to insufficiently competitive remunerations.

According to the surveys, over 40% of beneficiaries stated that the financial side of projects is the biggest obstacle to good execution of projects (preparation of applications for payments, delayed payments); nearly 40% have encountered problems connected with the preparation of an application. Nearly 30% of beneficiaries complained of the incorrectly operating information flow system.

Another important issue is the designation of areas covered by the Natura 2000 network, which as of yet has not been completed by the Ministry for Environment. Should the designation and approval of the Natura 2000 areas

be further delayed, a serious obstacle will appear, as the projects planned to be performed under the OP Infrastructure and Environment may be located in protected areas.

As regards *the application process*, the threats indicated could appear if the system of evaluating applications for financing was not clear enough. What is particularly threatening is an inadequate selection of experts evaluating projects as well as inadequate sets of evaluation criteria.

Table 1

The SWOT analysis. Strengths, weaknesses, opportunities and threats for the transport sector

Strengths	Weaknesses
– a well-developed railway network with a relatively evenly spatial distribution – a high contribution of the rail to cargo transport – fully free and competitive road transport market – increasing re-loading potential of sea ports – availability of EU funds for development of transport infrastructure – rapid growth in innovative solutions – role of market mechanisms which raise profitability of transport – inclusion of the sustainable development principle to spatial planning – presence of well-developed and highly active non-government organisations dealing with transport-related issues	– inadequate transport connections along main transport corridors – bad state of rail infrastructure, negatively impacting rail transport speed and comfort – overexploited and old rail rolling stock – lack of motorway and expressway connections between major economic centres – exhausted flow capacity of roads and their increasing congestion – low technical standards of existing roads – lack or insufficient high-class road systems around metropolitan areas – traffic flow running across urbanized areas – lack of integrated public transport systems – low road safety level – low quality of rail services and difficult rail service financing – inadequate air transport response to the increasing demand – lack of fast and efficient road connections with airports – poorly developed access to sea ports – old sea port infrastructure – no modern sea port services – increasingly bad state of waterways – increasingly more common weather anomalies (droughts, floods, fires) which have negative influence on maintaining and constructing transport infrastructure

Regarding *the implementation process*, a possible threat lies in the inability to plan and execute projects or to foresee possible risk of delay, which often leads to beneficiaries missing deadlines. This in turn causes delays and means that planned schedules need to be changed on a level of the programmes, which leads to changing forecasted utilization of the funds. In the previous period of programming, the beneficiaries had the biggest problems with the application

process, financial realization of projects and poor information flow. These problems are caused mainly by the institutional weakness of beneficiaries and small number of staff qualified to handle such matters. Potential delays can also be caused by delayed termination of procedures relating to public aid.

Concerning *the termination of the programme's execution*, threats relating to insufficient evaluation activities have been implied, in addition to the limited experience of the institutions engaged in the realization of such activities.

The turnaround programme increasing absorption of the funds

On 6th December 2005, the Council of Ministers approved the Turnaround Programme increasing absorption of structural funds under the National Development Plan (NDP) 2004–2006, prepared by the Ministry for Regional Development in coordination with the Ministry of Finances. The document stated that short- and long-term activities should be undertaken which would aim at achieving the main target, i.e. improvement of the absorption of structural funds under the NDP 2004–2006. The execution of these activities was assigned, in line with their capacity, to the Ministry for Regional Development or the Ministry of Finances. Some activities were to be performed by a joint effort of both ministries.

The activities undertaken by the state administration concerned institutional changes related to the management and implementation of operational programmes, elaboration of mechanisms which would strengthen the supervision of proper ministers on institutions implementing particular actions, complex revision of adopted procedures in the whole system, and especially during the application for EU funds and clearance of accounts within projects. The overriding principle was to diminish the burden laid on beneficiaries and institutions servicing these processes. In addition, a number of changes were introduced to the legal regulations pertaining to the utilization of EU funds and steps were taken to stabilize the staff employed in and outside state administration at different levels, responsible for performance of certain tasks relating to the implementation of the NDP 2004-2006. The immediate tool for financial management of EU programmes was the relocation of funds towards activities which ensured their full absorption.

Among the most important changes were:

– establishment of the Ministry of Regional Development, which functions as a managing institution for operational programmes and the Cohesion Fund;

– amendments to the Act on the National Development Plan, particularly the one which departs from the requirement of regulating the key documents in the form of legal acts having a status of ordinance;

– an amendment to the Act on the National Development Plan, which facilitated the procedures with this regard,

– simplification and increasing the transparency of procedures in particular programmes.

Strategy of development: Aims of the programme and their consistence with the Polish programme documents and EU regulations

The completed SWOT analysis of the Operational Programme Infrastructure and Environment implies that one of the major barriers impeding the economic growth of Poland and its regions is the lack of good and efficient technical and social infrastructure.

In line with the analysis of the present situation and conclusions drawn from the diagnosis, the attractiveness of Poland and its regions can be raised owing to investment projects in six areas: transportation, environment, power generation, culture, health care and higher education. This in turn can be attained by attaining the following *detailed targets of the Programme*:

– Constructing infrastructure which will ensure that the development of Poland will coincide with the improvement and preservation of natural environment.

– Increasing the accessibility of main economic centres in Poland, by connecting them with a network of motorways and expressways as well as alternative means of transport.

– Ensuring long-term energy-supply safety of Poland through diversification of supplies, diminishing the energy consumption in economy and development of renewable energy resources.

– Using the potential of the Polish culture and cultural heritage on a global and European scale in order to enhance the attractiveness of our country.

– Supporting the good health status of human resources.

– Development of modern academic centres, including the ones which educate specialists in modern technologies.

The aims of the Programme in *the transport sector* have been identified on the basis of the strategic directions of the sector development as set out in the National Strategic Reference Framework 2007–2013. This strategy points to four main aims, such as creation of a transportation network able to serve future transportation needs of the country, development of market-oriented relationships in transport, territorial and branch transport integration and, finally, improvement of road safety. The investment projects which put into life the strategy's aims will be mostly funded from the Programme's funds. In

the Strategy for Transport Development, detailed aims have been defined, such as constructing motorways and expressways, raising the load capacity of roads to 115 kN/axis, supporting selected infrastructural projects at airports and in navigation, as well as executing pilot projects in the development of Intelligent Transport Systems (ITS) and management of road traffic in towns and outside urbanized areas. These aims are reflected in activities distinguished in the priority axes VI and VIII.

Regarding the transport infrastructure, investment projects in the TEN-T network and priority projects are considered most important by the Polish authorities, which will make effort to bring the roads, rails and airports in the TEN-T network to the parameters set in the documents which established the TEN-T network. In addition, the authorities will carry out work to produce a Polish proposal for the revision of the network, which is scheduled to be ready in 2010.

The technical parameters of transport projects (e.g. road category, planned speed on railway roads) will reflect the forecasted demand for transport by particular sectors, especially in terms of traffic flow and quality of transport services.

Within the Programme, the investment projects that are to be executed will enable us to obtain the following aims:

– improvement of communication accessibility of the whole territory of Poland and inter-regional connections within the TEN-T network, including the priority investment projects indicated by the European Parliament and Council in their decision of 23rd July 1996 on the community guidelines relating to development of trans-European transport network of motorways and expressways – connecting the capital city with the main cities in eastern Poland and using their development potential created by their close location to the eastern border of the EU.

– development of transport branches which will be alterative to road transport, such as the TEN-T railway roads, including the priority projects indicated in the decision of the European Parliament and Council number 1692/96/WE157, as well as investing in infrastructure of sea ports and intermodal transport and raising the contribution of public transport to mobility of residents of metropolitan areas by supporting environment-friendly means of mass transport,

– improvement of transport safety and improvement of the inter-regional connections by investing in projects which enhance safety and traffic flow (particularly, intelligent transport systems) as well as development of road networks which will be complementary to the investment projects executed under the TEN-T programme.

Poland faces yet another challenge in that that it will have to overcome the

negative, albeit justifiable stereotype of the frightfully bad condition of the road infrastructure and inefficient railroad infrastructure. Many of the agglomerations in Poland have poor transport links between one another and with other urban centres countrywide. The stereotype that Poland is a peripheral country is strengthened due to its poor accessibility.

Modern and diversified transport infrastructure is an important factor in business activity of many companies; it also enhances the economic and social attractiveness of the country's regions. It is therefore necessary to reinforce, and in some cases to create, a series of key transport solutions. All Polish regions need to have better links with the other EU countries via trans-European infrastructural networks.

It is also necessary to introduce integrated mass transport systems and to improve the safety conditions on Polish roads. Poland has to overcome the infrastructural barriers but also take advantage of its geographical location and shape its infrastructural network in such a way as to stimulate a rapid growth of domestic and foreign investment projects in the possibly most uniform manner across the whole country.

Fast development of transport infrastructure, by road or rail, is unfortunately connected with some environmental costs. Reconstruction, modernisation and development of transport infrastructure must therefore take into account the requirements of rational use of space and protection of natural resources, with particular attention paid to eliminating or at least reducing the negative influence of transport on a decline in biological diversity, fragmentation of ecosystems and disorders in functions performed by wildlife corridors.

Priority axes executed under the framework of the Operational Programme Infrastructure and Environment

There will be 15 axes implemented under the programme:

I. The water and sewage management.

II. Waste management and the protection of earth.

III. Resource management and counteracting environmental risks.

IV. Initiatives aimed at adjusting enterprises to the requirements of environment

protection.

V. Environment protection and the promotion of ecological habits.

VI. TEN-T road and air transport network.

VII. Environment-friendly transport.

VIII. Transport safety and national transport networks.

IX. Environment-friendly energy infrastructure and energy effectiveness.

X. Energy security, including diversification of energy sources.

XI. Culture and cultural heritage.

XII. Health security and the improvement of the efficiency of the healthcare system.

XIII. Infrastructure of higher education.

XIV. Technical assistance – The European Regional Development Fund.

XV. Technical assistance – Cohesion Fund.

Priority axis VI: TEN-T road and air transport networks

The main objective of the priority axis

To improve the communication accessibility of Poland and inter-regional links by developing the TEN-T road and air network and to improve communication links between main towns in the provinces located in eastern Poland with the rest of the country by developing the road networks in these provinces.

Detailed objectives of the priority axis

– to improve traffic flow and safety, load capacity and quality of TEN-T network roads in transit traffic, road links between large Polish towns, including urban centres in eastern Poland, and transit roads across towns;

– to increase the capacity of airports included in the TEN-T network and the flow capacity of the air space over Poland as well as to ensure high quality of the services.

Description and justification of the priority axis

The execution of this priority axis will involve construction of sections of the motorways A1, A2, A4 and A18, construction of sections of expressways between the largest cities (e.g. the S1, S2, S3, S5, S7, S8, S17, S69), construction of ring-roads and re-construction of other national roads included in the TEN-T network, such as the sections of these roads crossing district towns.

It is also expected to implement projects which aim at reinforcing the load bearing capacity of national roads up to 115 kN/axis, which is in line with the obligations Poland assumed in the Accession Treaty. According to the treaty, in 2011 there will be 2.5 thousand roads of the load bearing capacity of 115 kN/axis.

The selection of projects concerning construction of expressways and motorways for financing from the Operational Programme is based on results of the analysis of several economic and social factors. The principal criterion for selection of road investment projects to be co-financed under the priority axis is the location of a given section of a road among the most important road trails, as identified in the draft Transport Development Strategy, which contribute significantly to the improved accessibility of regions and largest

agglomerations as well as to international and inter-regional connections. A the same time, the current and foreseen traffic flows are taken into consideration along with the project's readiness for implementation. Another important factor, which determines selection of a project for c-financing, is how it will raise safety on the identified, strategically important road connections.

Considering the fact that the TEN-T network includes corridors running across the two largest towns in eastern Poland, Białystok and Lublin, the support from this priority axis shall be given to the reconstruction of the national roads connecting these two cities with Warsaw so that they will reach the standards of expressways (the S8 and S17 roads).

The provinces situated in eastern Poland are characterised by poor transport accessibility. Therefore, it is essential to create efficient transport links with the rest of the country and with other European countries. The lack of territorial cohesion with the regions located in the east of our country adds to the existing differences in the level of development between particular parts of Poland and the European Union.

Owing to their transit location, the eastern provinces of Poland, crossed by the major transportation trails crossing eastern Europe, could play a very important role in servicing the international transport between West Europe and countries located in East Europe.

Under the priority axis, financial support shall be allocated to projects concerning preparation of technical documentation for investment projects in line with the objectives of this priority axis.

An expected outcome of the undertaken activities is the creation of a network of roads characterised by parameters much higher than the present ones, as well as a basic framework of large flow capacity roads, which will constitute a network of links between the largest economic centres in Poland. As a result, congestion of motor vehicles around the largest cities will decrease and the transit time between particular towns in Poland will be shortened. Moreover, the transit traffic flow across Poland will be smooth. In addition, the implementation of the projects supported by funds from this axis will create better links between eastern Poland's two largest cities and Warsaw, which will have an impact on a more accelerated development of the provinces located in eastern Poland, which are now the most poorly developed parts of our country.

The elimination of development barriers in Poland by constructing a network of roads and airports will increase the country's chances to make use of competitive advantages such as the geographical location or the large domestic market. This will improve trade between the EU countries and other neighbour countries around Poland. The development of the existing road network will also ensure good transport for industries and services and will improve passenger transport.

Table 2

Indices of the effects of the execution of priority axis VI

Priority axis VI	Name of an index	Value in the base year	Predicted value in the target year	Source of data (frequency of measurement)
Product indices	Number of projects			Monitoring of the programme (annual)
	Motorways constructed in the TEN-T network (km)			Monitoring of the programme (annual)
	Expressways constructed in the TEN-T network (km)			Monitoring of the programme (annual)
	Roads re-constructed in the TEN-T network (km)			Monitoring of the programme (annual)
	Airports re-constructed in the TEN-T network (km)			Monitoring of the programme (annual)
Outcome indices	Level of completion on the TEN-T PP 25 (%)			Monitoring of the programme (annual)
	Value of the time for passenger and cargo transport saved by building and modernising roads (euro-year)			Monitoring of the programme (annual)
	Improved traffic capacity of airports in the TEN-T network (million passengers)			Monitoring of the programme (annual)
	Increased number of passengers served at the re-constructed airports (million passengers)			Monitoring of the programme (annual)
Indices	Name of an index		Value in 2005	Source of data
Context indices	Length of motorways (km)			Main Statistics Office "Transport – activity outcome"
	Length of expressways (km)			Main Statistics Office "Transport – activity outcome"
	Length of roads in the TENT-T network			Ministry for Transport
	Number of airports in the TEN-T network			Ministry for Transport
	Number of accidents in state roads outside towns (per 1 million vehicle-kilometer)			Head Office of the Police
	Number of fatal casualties (per 100 thousand residents/in absolute figures			Head Office of the Police

It will also enable us to benefit fully from the expansion of the unified market and to create new opportunities to attract foreign capital and to increase mobility among working age people.

The main beneficiaries under the priority axis are: subjects managing national roads and airports included in the TEN-T network.

Expected outcomes of the implementation of the priority axis:

– creation of a network of efficient transport connections, which will help intensify the trade exchange on the unified market,

– economic development of regions and improved accessibility of main urban agglomerations in Poland,

– improved safety in transport, which will enable us to reduce high social and economic costs of road accidents,

– improved communication accessibility of eastern Poland,

– enhanced attractiveness of the two major cities in eastern Poland as locations of production investment projects.

Priority axis VIII. Transport safety and national transport networks.

The main objective of the priority axis

To improve the safety and communication accessibility of Poland and the national inter-regional connections, outside the TEN-T network, and some sections of roads included in this network.

The details aims of the priority axis:

– to improve the safety in road traffic,

– to improve the condition of national roads outside the TEN-T network and some sections of roads included in this network,

– to improve the efficiency of road traffic management,

– to improve the safety of air traffic.

The description and justification of the priority axis

Under this priority axis, financial support shall be allocated to projects related to:

– the improvement of the safety in road traffic. The improvement of safety on roads will involve providing roads with equipment which increases traffic safety and, on the other hand, undertaking actions which aim at changing the attitude and behaviour of road traffic participants,

– the improvement of the condition of national roads outside the TEN-T network and some sections of roads included in this network. Raising the standard of national roads will increase their traffic flow capacity, improve safety on roads and shorten the time of travel, which will decrease the cost of road transport,

– development of Intelligent Transport Systems, particularly traffic management systems,

– providing necessary safety standards in air traffic, in compliance with the international and national regulations.

Regarding road projects, the support allocated under this priority axis will be given to projects involving national roads outside the TEN-T network, in particular the ones situated in eastern Poland, and some sections of roads included in this network (such as a section of Road S19, which belongs to the TEN-T network), including their reconstruction in order to reach standards of expressways, as well as construction of ring-roads and reconstruction of other sections of national roads outside the TEN-T network, including the sections crossing district towns. It is also expected that the priority axis will support projects aiming at strengthening national roads up to the load bearing capacity of 115 kN/axis.

The principal criterion when selecting projects for co-financing will be their effect on increasing the accessibility of the largest urban agglomerations in a given area. Another important criterion will be the effect of a project on improving road safety on the road trails in eastern Poland which carry the heaviest traffic. Another consideration will be the readiness of a project to be implemented. Projects involving preparation of technical documentation for investment projects in line with the priority axis are also eligible for co-financing.

The choice of this priority axis has been dictated by the need to develop national transport infrastructure outside the TEN-T network and to guarantee cohesion of the transport system across Poland. Moreover, Poland urgently needs to improve the safety in road and air traffic and to apply on a wider scale modern information technologies in transport.

The main beneficiaries under this priority axis will be: subjects managing national roads and airports, subjects responsible for road and air transport safety, units of local governments, subjects involved in servicing passengers and managing public transport.

Expected outcomes of the implementation of the priority axis

– improved safety on roads,
– more efficient inter-regional connections,
– broader application of Intelligent Transport Systems,
– improved safety in air transport.

Table 3

Indices of the effects of the execution of priority axis VIII

Priority axis VIII	Name of an index	Value in the base year	Predicted value in the target year 2013 (2015)	Source of data (frequency of measurement)
Product indices	Number of projects			Monitoring of the programme (annual)
	Constructed and modernised expressways, including the TEN-T network (km)			Monitoring of the programme (annual)
	Reconstructed state roads (km)			Monitoring of the programme (annual)
	Number of reconstructed danger spots			Monitoring of the programme (annual)
	Airports reconstructed to improve safety			Monitoring of the programme (annual)
Outcome indices	Value of the time for passenger and cargo transport saved by building and modernising roads (euro-year)			Monitoring of the programme (annual)
Indices	Name of an index		Value in 2005	Source of data
Context indices	Number of airports			Ministry for Transport
	Number of accidents in state roads outside towns (per 1 million vehicle-kilometer)			Head Office of the Police
	Number of fatal casualties (per 100 thousand residents/in absolute figures			Head Office of the Police

The management and implementation system of the Operational Programme Infrastructure and Environment

The system for managing and implementing the Operational Programme Infrastructure and Environment is regulated by the Regulation number 1083/2006 issued by the Council of Europe on 11th July 2006, which establishes general provisions for the European Regional Development Fund, the European Social Fund and the Cohesion Fund, and by the Regulation of the Council number 1828/2006/WE of 8th December 2006, which sets detailed executive

provisions for the Council's Regulation number 1083/2006, which specifies general provisions concerning the European Regional Development Fund, the Social Fund and the Cohesion Fund, and finally by Regulation number 1080/2006 of the European Council ad Parliament of 5th July 2006, which concerns the Regional Development Fund.

The provisions concerning the system of management and implementation of the OP Infrastructure and Environment as well as the functions of the institution managing the National Strategic Reference Framework, the institution managing the Programme, certifying institutions, intermediary institutions and the institutions to which the intermediary institutions will delegate implementation of some part of the tasks, the auditing institution and mutual relations between these institutions are included in the National Strategic Reference Frameworks 2007–2013.

Summary

The Operational Programme Infrastructure and Environment, in the years 2007–2013, will be one of the operational programmes that will become a basic tool for obtaining the assumed objectives of increasing competitiveness and investment attractiveness of Poland with an aid of funds provided by the Cohesion Fund and the European Regional Development Fund. The maximum financial support allocated from the EU funds under the OP Infrastructure and Environment is 85% of eligible costs.

What is characteristic of the OP Infrastructure and Environment is that it integrates the issues of basic infrastructure, comprising technical infrastructure, with the basic components of social infrastructure. Another important element of the programme involves actions undertaken in order to produce beneficial influence on environment.

The OP Infrastructure and Environment is an opportunity of execute large transport projects. At the same time, it is a big challenge for potential beneficiaries of the programme. The complex nature of investment projects, tight schedules for the execution of the Programme, and the requirement to implement and apply the procedures imposed by the Programme, the FIDIC's conditions for contracts and the need to comply with the binding legal regulations mean that beneficiaries have to prepare projects with the highest efficiency and precision, employ highly qualified and dedicated staff in the team of the Project Manager, who represents the Investor, the team of the Contract Engineer, a supervising body, and, above all, in the team of the Contractor.

The implementation of the programme and achievement of its objectives also requires proper preparation of public administration and beneficiaries so that they are able to take the best advantage of the funds available under the Operational Programme.

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MEASURING PRICE RISK IN COMMODITY MARKETS

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K e y w o r d s: price risk, measurement methods, commodity markets, Polish wheat market.

A b s t r a c t

In the article concepts of price uncertainty and risk as well as econometric methods useful in measuring this type of risk are briefly discussed. Four the most frequently used approaches and related methods of measuring price risk in commodity markets were characterized and their potential application was empirically illustrated on the example of wheat market in Poland. Results of the analysis carried out showed that predictable and unpredictable components of the price series should be distinguished to properly evaluate real risk exposure. Some noticeable changes in the volatility of the wheat prices over the analyzed period indicate that exposure to the price risk in Polish wheat market after accession to the EU has increased.

MIERZENIE RYZYKA CENOWEGO NA RYNKACH TOWAROWYCH

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S ł o w a k l u c z o w e: ryzyko cenowe, metody pomiaru, rynki towarowe, polski rynek pszenicy.

A b s t r a k t

W artykule omówiono koncepcje niepewności i ryzyka cenowego, jak również statystyczne metody przydatne w jego mierzeniu. Scharakteryzowano cztery główne podejścia i związane z nimi metody pomiaru ryzyka cenowego na rynkach towarowych oraz zilustrowano ich potencjalne

zastosowanie na przykładzie rynku pszenicy w Polsce. Wyniki przeprowadzonej analizy wskazują, że przewidywalne i nieprzewidywalne komponenty szeregów czasowych cen powinny być rozróżniane, aby właściwie ocenić ekspozycję na ryzyko cenowe. Pewne, zauważalne w analizowanym okresie, zmiany w zmienności cen pszenicy wskazują, że po akcesji do UE wzrosła ekspozycja na ryzyko cenowe na polskim rynku pszenicy.

Introduction

Market agents are constantly facing various types of risks, which can be defined according to many different criteria. In fact, there is no single classification of those risks widely accepted as universal one. From managerial perspective several general risk categories can be pointed out such as: business risk, market risk, inflation risk, interest rate risk, credit risk, liquidity and derivative risk. In a globally competitive environment with instant communication cultural and currency risks become also important (HIRSCHEY 2003). In this context price risk is inherent to market risk and becomes especially evident when price volatility exists. Among the markets exhibiting relatively high level of such volatility are commodity markets. In order to effectively deal with price risk born on these markets appropriate understanding and measuring of such risk are crucial.

The purpose of this article is twofold. First, is to briefly discuss concepts of price uncertainty and risk as well as econometric methods useful in measuring this type of risk. Second, is to empirically illustrate application of the discussed methods to evaluate price risk on the example of wheat market in Poland. Polish wheat market represents a typical commodity market of significant size and with prices formed by domestic and international transactions. Thus, it meets criteria for empirical price risk analysis, which can be considered methodologically applicable for other commodity markets and serve as point of reference. The analysis was carried out using Polish monthly wheat procurement prices reported by the Polish Statistical Office (GUS) for the period from January 1996 to August 2010. The length of the price series allowed for assessing EU accession effect on the price risk in the analyzed market.

Notions of price uncertainty and risk

Both risk and uncertainty stem from perception of reality and knowledge about probabilities of events. Interpretations of probabilities can be objective or subjective. According to objective interpretations, probabilities are real and possible to discover by logic or estimate through statistical analyses. According to subjective interpretations, probabilities are human beliefs and they are not intrinsic to nature (HOLTON 2004).

The most famous general definition of risk was provided by KNIGHT (1921) who proposed that risk relates to objective probabilities while uncertainty relates to subjective probabilities. He distinguished *a priori* probabilities derived from inherent symmetries (as in throw of a die) and statistical probabilities obtained through analysis of homogenous data. He was also reluctant to treat opinions formed in the absence of symmetry or homogenous data as probabilities. Knight's definition has been criticized as based on a particular objectivist interpretation of probabilities, and being in fact a definition which addresses only measurable and unmeasurable uncertainty (HOLTON 2004).

According to common usage risk entails not only uncertainty but also exposure meant as possible consequences. This is because people care about the outcomes, and if someone has personal interest in what transpires, that person is exposed. Therefore, risk is exposure to proposition of which one is uncertain. Following this reasoning it can be stated that risk is a condition of individuals who are self-aware. Companies, organizations and government are not self-aware, so they are not capable of being at risk. They are sort of conduits through which individuals (members, employees, investors, voters, etc.) take risk. Consequently, subjective probability, utility as well as state preferences are tools for depicting the uncertainty and exposure components of risk. Using these tools we can only define some aspects of the perceived risk, not risk itself (HOLTON 2004). In the vast body of literature notions of uncertainty and risk are often interchangeable, although we assume that the term uncertainty should be used to describe the environment in which economic decisions are made, and the term risk to characterize the economically relevant implications of uncertainty.

Commodity price risk is one of very clearly perceived risks by producers, processors and traders. Price variability is a key aspect of this risk for all market participants. So, we attribute price risk to the volatility of price behavior to which the participants of a particular market are exposed. Volatility increases the risk of receiving lower or paying higher prices for a specific commodity, and it also makes the use of derivative instruments to hedge against price risk more expensive. Commodity prices in general are known to have a high volatility. Although there is no consensus as to what constitutes too much commodity price variability, it is generally agreed that price variability that cannot be managed with existing risk management tools can destabilize incomes, inhibit producers from making investments or using resources optimally, and eventually drive resources away from the sector. Thus, there is an obvious need for accurate measuring this risk in order manage it effectively.

Methods of measuring price risk

There are various levels and ways of assessing price risk. For instance, price risk can be evaluated at the company level with regard to specific market environment. Another levels would be overall market level (i.e. domestic as well as international markets for certain goods and services), or macroeconomic level (i.e. the economy as a whole). Also the ways of assessing price risk represent very wide spectrum of methods from fairly simple to sophisticated ones. In our article we focus on econometric methods of measuring price risk observable at the market level.

A lot of various concepts and methods of measuring price risk can be found in the literature. Most of them are based on assessment of historical prices volatility, however, there is a lack of consensus about the best solution for measuring risk and uncertainty connected with price changes. Great variety of concepts and methodological approaches could be justified in the context of different assumptions made about price expectations of producers and others market players (MOSCHINI, HENNESSY 2001, MOLEDINA et al. 2003, ANDERSEN et al. 2005).

Estimating price risk on the basis of prices volatility several key choices have to be made, namely:

– use price levels or price returns in the analysis;

– distinguish negative and positive price movements, or not;

– separate predictable and unpredictable components of price series, or not;

– treat variability as time invariant or time varying.

Having these issues in mind, four the most frequently used approaches and related methods of measuring price risk in commodity markets can be characterized. According to the first approach all price movements are treated as indicators of instability. In this type approach it is assumed that market agents behave in a naive way, so, they do not form any forecasts about future prices. Additionally, price levels (P_t) are taken into account to estimate price variability using statistical measures. The most common measures are classical unconditional standard deviation (σ) and coefficient of variation (V). They are computed as follows:

$$\sigma = \left[\frac{1}{n-1}\sum_{t=1}^{n}(P_t - \bar{P})^2\right]^{0.5} \tag{1}$$

$$V = \frac{\sigma}{P} \cdot 100 \tag{2}$$

where:
σ – unconditional standard deviation,
P_t – price in the period of t,
$\bar{P}$ – average price of commodity in the analyzed period,
n – the number of observations,
V – coefficient of variation.

Apart from the above measures another ones could be used, such as: average deviation, nonparametric volatility coefficient, or inter-quartile range. This type of approach is unsatisfactory for a number of reasons, however, the most important one is the fact that in real life we cannot not assume that market agents do not form any price expectations. It seems reasonable to assume that producers or buyers can distinguish regular movements in price behaviors such as seasonality or trend. In other words they are able, at least to some extent, to predict price changes on the basis of the past patterns and *ex ante* knowledge. Consequently, this is why such measures may overestimate degree of risk.

The second approach is to analyze price volatility using, instead of the price levels, price ratios (P_t/P_{t-1}) over a period of time, where P_t and P_{t-1} are price levels in periods t and t–1 respectively. In a practice, not ordinary ratios but logarithmic ratios (called rate of returns) are used. Logarithmic rate of returns have numerous advantages in comparison to ordinary returns, what make them very useful in both theoretical considerations and practical analyses. The first advantage is possibility of aggregation of returns in a longer period. The second, is fact that the simple ratio is an asymmetric measure. Positive returns are theoretically unlimited, whereas negative ones are very limited. Hence, logarithmic returns have better statistical properties. Logarithmic rate of return is computed as follows:

$$r_t = \ln\left(\frac{P_t}{P_{t-1}}\right) \tag{3}$$

where r_t is rate of return in a period t.

To analyze volatility on the basis of returns earlier described statistical measures could be used. Typically, it would be standard deviation of logarithmic ratios calculated according to the following formula:

$$\sigma = \left[\left(\frac{1}{n-2}\right)\sum_{t=2}^{n}(r_t - \bar{r})^2\right]^{0.5} \tag{4}$$

where $\bar{r}$ is an average return.

To asses volatility and risk in a longer period of time standard deviation formula can be extended to the form:

$$\sigma = \left[Z \cdot \left(\frac{1}{n-2} \right) \sum_{t=2}^{n} (r_t - \bar{r})^2 \right]^{0.5} \tag{5}$$

where Z is the number of observations in the analyzed period (e.g. in case of monthly data and taking into account yearly cycle of agricultural production $Z = 12$).

One of the most important issues in price risk analysis is whether both positive and negative price returns should be treated as indications of such risk. It could be assumed that this depends on the market agent position on a spot market. For example, in case of wheat producer who carry stocks, only the negative returns indicating probability of decrease in prices could be treated as indication of risk. On the other hand processors for whom wheat is a part of the production costs would consider positive returns as indication of risk. Depending on the side of the market transactions (selling or buying) we might consider either downturn or upturn in prices as potential exposure to price risk. Correspondingly, only one kind of returns (negative or positive) should be analyzed in order to measure price risk. An appropriate measurement tool is semi-standard deviation, which is similar to standard deviation, however, the only observations from a data set included in the calculations are those which values are below the mean or a target level ($r_i < \bar{r}_0$). In other words it is a measure of downside risk. The formula for calculating this measure could be written as follows:

$$\sigma_s = \left[\left(\frac{1}{n-2} \right) \sum_{t=2}^{n} (d_t)^2 \right]^{0.5} \tag{6}$$

where:
σ_s – semi-standard deviation,
$d_t = 0$, for $r_t \geq \bar{r}_0$,
$d_t = r_t - \bar{r}_0$ for $r_t < \bar{r}_0$,
$\bar{r}_0$ – mean or target value of the returns.

Semi-standard deviation (or semi-variance) includes only the values reflecting the negative direction of fluctuations of commodity prices from the threshold level, which delineates risky price movements from those which are not risky. Semi-standard deviation also could be used to measure upside risk

meant as dispersion of all observations that rise above the mean or target value of a data set. The values of semi-standard deviation are always lower than that of total standard deviation of the distribution.

Semi-standard deviations are especially useful for analyzing longer lasting periods when distributions of returns are right skewed, and no single measure of dispersion summarizes the overall risk of the distribution. In case of relatively short investment period (e.g. monthly) distributions of returns are rather symmetric.

Using the two described above approaches we would intrinsically assume that market agents behave in a naive way meaning that they do not have the ability to detect regular features of the price process. It is rather obvious that market decisions of the agents are based on expectations other than naive ones. So, these approaches exaggerate uncertainty an related price risk (DEHN 2000, MOLEDINA et al. 2003).

The third approach to measure price risk eliminates or at least substantially mitigates this problem through decomposition of a price series and identifying its predictable and unpredictable components under assumption that the price volatility remain time invariant. Rationale for such approach seems to be obvious when we closer analyze demand and supply conditions of some of the commodity markets. An example would be agricultural commodity markets, in which the dynamic of prices is very complex (FERRIS 2005). Nevertheless, some price movements can be assumed as regular and thus predictable. The most common feature of agricultural prices is seasonality. The seasonality is being reflected in an upward and downward regular movement in prices during one year. In other words it represents intra-year fluctuations which are repeated more or less regularly year after year. It is difficult to envisage that for example farmers or processors do not have any idea about existence of such fluctuations.

Another type of variation which is supposed to be taken into account by market agents is the tendency of price evolution. When the data exhibit a steady growth or decline over time we can assume that in a long term the phenomenon is characterized by a trend**.** Statistically, a trend component of a price series can be classified as either deterministic or stochastic. Deterministic trend represents a smooth line, which can be described by simple mathematical equation (e.g. linear or exponential trend). Stochastic trend does not imply existence of a monotonically increasing or decreasing function, but simply the lack of a constant mean.

Finally, what might be observable in the price behavior is the cyclical component, which shows recurring values of the variable of interest above or below the trend line over a multiyear time horizon. The cyclical component describes more or less regular fluctuations caused by the economic cycle. Prices

of agricultural commodity are affected by so called inventory cycle (e.g. hog cycle). The length of cycles is not constant, as the length of seasonal peaks and valleys, making prediction of economic cycles much tougher. By some analysts cycles are treated as a part of long-term tendency, so called stochastic trend.

In general, the discussed approach is based on assumption that all regular price movements could be predicted. To extract them an econometric model with explanatory variables can be applied. More convenient way is to use time series models, e.g., ARIMA (BOX, JENKINS 1983) or congruent models (ZIELIŃSKI 2002). In our article we present a model with deterministic elements for trend t and seasonality D_k and with autoregressive component r_{t-j} which is close to the second idea. Then, the risk is basically related to a summary measure of the unpredictable elements of the price process, so called error term (ε_t). To determine the level of price risk standard measures of variability such as standard deviation, semi-standard deviation or other could be applied. A relevant model could be estimated using price levels or price returns. The model, similar to that of DEHN (2000), reflecting logarithmic returns of the monthly prices r_t behavior can be written as follows:

$$r_t = \alpha_0 + \alpha_1 t + \alpha_2 t^2 + \sum_{j=1}^{p} \beta_j r_{t-j} + \sum_{k=1}^{11} \gamma_k D_k + \varepsilon_t \tag{7}$$

where:
α_0, α_1, α_2, β_j, γ_k – coefficients of the model,
t – time variable,
r_t, r_{t-j} – logarithmic returns and lagged logarithmic returns for the past periods j,
D_k – dummy variables for seasonal components,
ε_t – error term, a stochastic component of price returns.

The fourth approach to measure price risk, in contrast to the third one, allows us to treat variance as time varying. The approaches with the use of price returns discussed so far, are based the assumption that price volatility is time invariant. But, when observing real price behaviors very often there appear to be periods of higher and lower price volatilities. In a time series of returns we can see so called volatility clusters. They are formed as a result of autocorrelation in variance of returns. It simply means that large price movements are followed by movements of the same nature and the same apply to small kind of movements.

To carry out an analysis we can use either price returns of the r_t (see equation 3) or stochastic component ε_t (see equation 7). In the first case there is no distinction made between predictable and unpredictable component of the series. When volatility is estimated using stochastic component of the price

series, then we analyze risk which constitutes a part of the price time series variability. One of the simplest methods which could be applied is exponentially weighted moving average model (EWMA). The following is the recursive formula for the variance of stochastic component:

$$\sigma_t^2 = \lambda\sigma_{t-1}^2 + (1 - \lambda)\varepsilon_{t-1}^2 \tag{8}$$

where:
λ – smoothing constant,
σ_t^2 – current variance,
σ_{t-1}^2 – variance for the previous period,
ε_{t-1}^2 – previous value of stochastic component of the price returns.

In such model the estimated risk is time varying and more depends on last most recent returns (or innovations) than on the earlier ones. This is ensured by the use of smoothing constant λ which should be less than one. A higher λ indicates slower decay in the series of returns, or in the stochastic component. On the other hand, if we reduce the lambda, we indicate faster decay because the weights fall off more quickly. The decision about value of λ is rather subjective. According to HAUG (2007) it should be between 0.75 and 0.98. Alexander (1996) suggests smaller smoothing constant ranging from 0.5 to 0.7.

Time varying conditional variances can be also obtained by applying parametric methods such as Generalized Autoregressive Conditional Heteroskedasticity (GARCH) model (BOLLERSLEV 1986). The most commonly used is univariate GARCH(1.1) specification, according to following formula applied to the stochastic component of the equation 7:

$$\sigma_t^2 = \gamma_0 + \gamma_1\varepsilon_{t-1}^2 + \delta_1\sigma_{t-1}^2 \tag{9}$$

where:
γ_0, γ_1, δ_1 – coefficients of the model.

Parameters of equation 9 are estimated using maximum likelihood methods on the basis of a set of assumed initial values of the squared innovations and the variances. GARCH(1.1) model in comparison to EWMA model is a mean reversion under condition that $\gamma_1 + \delta_1 < 1$. Model reverses to the mean variance which can be calculated using the following formula:

$$\sigma^2 = \frac{\gamma_0}{1 - \gamma_1 - \delta_1} \tag{10}$$

An empirical illustration

We illustrate our theoretical considerations about commodity price risk measurement methods using Polish wheat procurement prices for the period from January 1996 to August 2010. Figure 1 presents behavior of those prices together with calculated trend (T) and long-term tendency, so-called trend-Cycle (TC). The computations were made using Hodrick-Prescott filter and ARIMA X-12 method (FINDLEY et al. 1988).

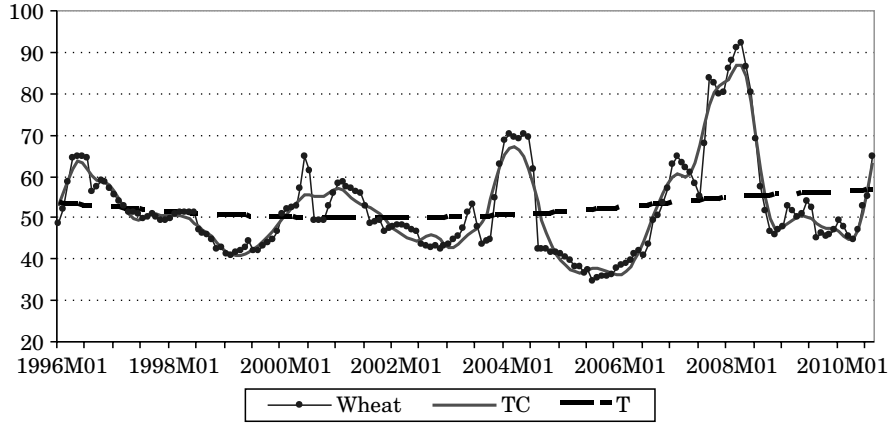

Fig. 1. Volatility of Polish monthly wheat procurement prices in the period from January 1996 to August 2010 (PLN/100 kg)
Source: own calculations based on the Polish Statistical Office (GUS) data.

When examining the depicted price variability we can notice that the most important part of it is connected to cyclical behavior. Variation of the cycle component of the wheat price series represents 84.4% of total variability. The length of cycles, as well as their amplitudes, are not constant over the analyzed period. The variance of the seasonal component, which is the most known type of variability in agricultural commodity markets, constitutes only 6.3% of total variance of the price series. Decomposition procedure applied allowed us to conclude that seasonality is also time varying. In 2009 the highest prices during a year were in February (seasonal index was 1.06) and the lowest from August to October (0.95–0.96). Trend and irregular variation are responsible for 3.5% and 2.8% of the total variance of series, respectively.

The basic statistics characterizing the analyzed price behavior are included in Table 1. There is no big difference between values of the mean and the median what may suggest that the distribution of series is close to the normal one. Other statistics indicate that the distribution is rather right-skewed. Wheat prices may be seen as highly volatile as the range between minimum

and maximum is equal to 57.64 PLN, however during half of the analyzed period they fluctuated between 44.17 and 57.11 PLN. An average deviation from the mean is 11.48 PLN (22.05%).

Table 1

Values of the basic statistical measures of the nominal wheat procurement prices in Poland, their returns and stochastic component for the period from January 1996 to August 2010

Measure	Nominal prices	Log returns of prices	Stochastic component
Mean	52.0407	0.0017	0.0000
Median	49.5150	0.0035	-0.0037
Variance	131.7160	0.0045	0.0030
Standard deviation	11.4768	0.0669	0.0550
Minimum	34.5200	-0.3764	-0.2856
Maximum	92.1600	0.2102	0.2664
Range	57.6400	0.5865	0.5520
Lower quartile	44.1650	-0.0207	-0.0247
Upper quartile	57.1050	0.0238	0.0245
Interquartile	12.9400	0.0445	0.0491
Standardized skewness	7.5071	-4.5652	1.3968
Standarized kurtosis	5.6595	19.2221	20.8255
Coeff. of variation	22.0534	X	X

Source: own calculations based on the Polish Statistical Office (GUS) data.

Log return of wheat prices calculated according to the equation 3 are plotted in Figure 2. The mean of monthly returns is slightly positive. Returns of the wheat prices are not normally distributed. They behave as prices of the most of financial assets being left skewed and highly leptokurtic. The value of standard deviation amounts to 0.067 what indicates that unconditioned volatility is 6.7%. Applying equation 5 allows us to asses price risk in one year horizon. The estimated statistic is 0.23 what should be interpreted that during 12-month period the risk of a change of wheat prices is 23%.

The downside risk was estimated using equation 6. The calculated value is 0.049, which indicates 4.5% of risk connected with decrease in prices. The risk of decrease in wheat prices in 12-month horizon is 17%.

The values of the statistics presented so far can be overestimated because expectations of the market agents were ignored. In order to capture only this part of the analyzed price volatility which is unpredictable, equation 7 was employed to the log price returns series (Fig. 2). Parameters of the model estimated using the OLS method and backward selection procedure are the following:

$$r_t = 0.005 + 0.463r_{t-1} - 0.063D_7 - 0.042D_8 + 0.056D_9 + \varepsilon_t;\ R^2_{ADJ} = 30.75;\ DW = 1.82.$$

All coefficients, apart from the constant, are statistically significant. Model explains over 30% of the total variance of returns. It means that by such part of variation the previous estimates of the price risk were overvalued. In Figure 2 the estimated stochastic component with the log returns can be compared. Estimated standard deviation of ε_t is 0.055 (see Table 1). The risk in one year time perspective is now 19%, which is lower than 23% when the whole variation of price returns is taken. The distribution of stochastic component now seems to be symmetric, and not skewed as it was in case of the log price returns (see standardized skewness coefficients in Table 1). Stochastic component of the prices is also highly leptokurtic.

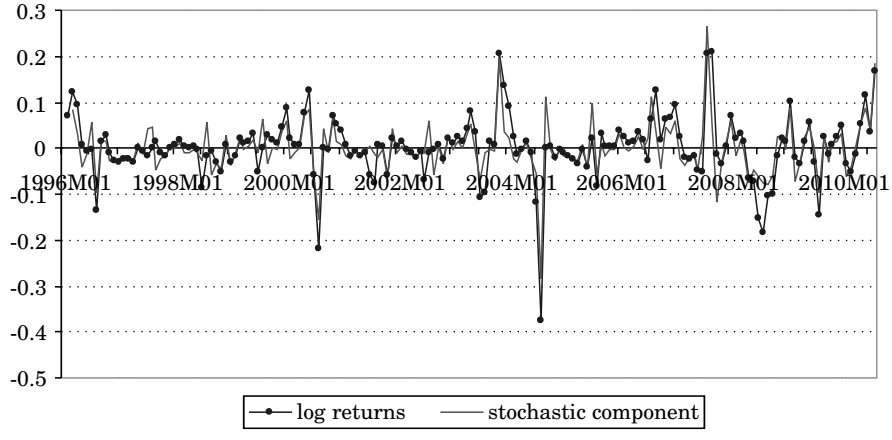

Fig. 2. Log returns and stochastic component (ε_t) of the analyzed prices
Source: own calculations based on the Polish Statistical Office (GUS) data.

Examining the unconditional price risk we have initially assumed that its level doesn't change from period to period. Numerous researches show that the prices form so called volatility clusters, which indicate that the concerned risk might be time varying. To estimate time varying risk we use the values of the stochastic component presented in Figure 2. The first estimation was made using EWMA model. In our empirical illustration two values of the smoothing constant were used: 0.94 and 0.98 (see Figure 3). When the variance of stochastic component and smoothed values are compared it appears that the model with lambda equal to 0.98 is better from the statistical standpoint (i.e. the errors are lower).

When analyzing estimated values of standard deviation calculated as the root of variance from the equation 8 (Fig. 3), we can suppose that wheat price

risk may be time varying and furthermore it seems to be rising over time. So, it implies that integration with the EU market hasn't reduced the price risk in the Polish wheat market. This finding also asserts conclusions from our earlier conducted analysis (FIGIEL, HAMULCZUK 2008).

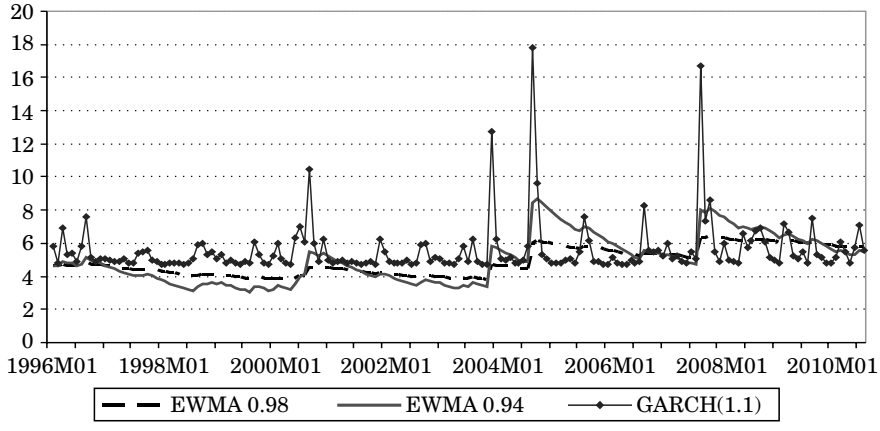

Figure 3. Conditional volatility of the analyzed prices (%)
Source: own calculations based on the Polish Statistical Office (GUS) data.

Before starting to estimate a GARCH(1.1) model we analyze an ARCH effect in the stochastic component of the price movements. Computed LMARCH statistics[1] (ENGLE 1982) for 12 and 24 lags are 9.91 ($p = 0.62$) and 13.86 ($p = 0.95$), respectively. These values do not allow us to reject H:0 hypothesis stating that ARCH effect doesn't exist. The obtained statistics suggest lack of volatility clustering. Non existence of conditional volatility was confirmed by the following results of estimation of the GARCH(1.1) model and respective t-values:

$$\hat{\sigma}_t^2 = 0.00207 + 0.3598\ \varepsilon_{t-1}^2 + 0.0813\ \sigma_{t-1}^2$$
$$t \text{ value:} \quad (1.97) \qquad (0.36) \qquad (0.43)$$

Both past innovations and past variance are statistically insignificant what suggests that the simplest GARCH model doesn't describes properly conditional risk of the wheat prices. It should be emphasized that this is not a confirmation of the lack of conditional volatility at all. It simply means that GARCH(1.1) model doesn't properly describe it and there may exist another

[1] $LM_{ARCH} = T \cdot R^2$, where: T – number of observations, R^2 – determination coefficient.

models of the GARCH class which are more appropriate. We also have to bear in mind that the price series analyzed were monthly data whereas GARCH models are usually used to examine behavior of hourly or daily financial market price series. It's worth to mention that other authors have also not been able to provide evidence of unconditional volatility for the most monthly agricultural commodity prices in Poland (BORKOWSKI, KRAWIEC 2009). The long-run variance (long-run equilibrium) calculated according to equation 10 amounts to 0.0037, so unconditional standard deviation in percentage form is just 6.1%.

Conclusion

Price risk exposure is usually analyzed as related mainly to adverse movements in prices of financial assets. Behavior of the commodity prices is not much different as far as volatility is concerned, thus the need for proper identification and accurate measurement of price risk in the commodity markets is indispensable. The existing methodology offers a lot of solutions, however, due to lack of consensus about which methods of measuring price risk should be preferred, it seems reasonable to use various alternative approaches and compare obtained results to appropriately assess risk exposure.

Risk perception depends on knowledge about potential price movements and ability to forecast them by market agents. There is a strong economic evidence that market players are able to detect regular features of the price process. This suggests that price risk should be estimated using methods allowing the analysts to distinguish predictable and unpredictable components of the price series, otherwise, evaluation of real risk exposure could be easily overstated.

Analyzing monthly wheat procurement prices in Poland using parametric GARCH(1.1) we cannot confirm existence of the conditional volatility. On the other hand the results obtained from the EWMA model provide some evidence of changes in the volatility of the wheat prices over the analyzed period, especially appearance of a rising trend in it. This observation clearly suggests that after accession to the UE exposure to the price risk in Polish wheat market has increased what calls for a broader practical use of market risk management tools by participants of this market.

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