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PUBIC SPENDING AND THE ECONOMIC GROWTH RATE IN THE EUROPEAN UNION COUNTRIES

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Key words: public spending, economic growth, European Union, GDP.

Abstract

The aim of this study is to make an assessment of the relationship between the total amount of public spending and the economic growth rate. According to the study results, an increase in total amount of public spending (expressed as % of GDP) brings about a decrease in the real gross domestic product. An analysis of the public spending in selected EU countries in the period from 1996 to 2005, measured as its percentage of GDP, reveals its relationship with a change in real GDP value. The relationship is negative, which means that a 1% increase in public spending is accompanied by an average decrease in the real GDP growth rate by 0.151312%. The actual GDP growth rate differs from that estimated by the model by $\pm 0.13823\%$.

WYDATKI PUBLICZNE A TEMPO WZROSTU GOSPODARCZEGO W KRAJACH UNII EUROPEJSKIEJ

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Słowa kluczowe: wydatki publiczne, wzrost gospodarczy, Unia Europejska, PKB.

Abstract

Celem opracowania jest ocena zależności między ogólną wielkością wydatków a tempem wzrostu gospodarczego. Badania wykazały, że wzrost całkowitych wydatków publicznych (wyrażonych jako %PKB) wpływa na spadek realnego produktu krajowego brutto. Przeanalizowane wydatki publiczne wybranych krajów członkowskich Unii Europejskiej w okresie 1996–2005, mierzone udziałem procentowym w PKB, zależą od procentowej zmiany realnego produktu krajowego brutto. Zależność ta jest negatywna, co oznacza, że wraz ze wzrostem wydatków publicznych o 1% tempo zmian realnego PKB maleje przeciętnie o 0,151312%. Dane rzeczywiste tempa zmian realnego PKB różnią się od oszacowanych o $\pm 0,13823\%$.

Introduction

Economic growth is the foundation for improvement of living conditions and for general welfare, as well as one of the necessary conditions for the progress of civilisation. Owing to all this, economic growth has become one of the key objectives of economic policy of all EU countries. One of the factors which leads to economic growth is an active fiscal policy in which public spending plays a special role.

The aim of this study is to assess the relationships (connection) between the amount (level) of public spending and the economic growth rate. Such an assessment can provide the basis for a more general postulate on the role of public spending in economic growth of EU countries.

The paper presents the following research hypothesis: there is a negative relationship between the amount of public spending and the economic growth rate, i.e. the lower the level of spending, the higher the growth rate. Hence the question: what should be the level of spending be for the economy to be best stimulated for growth?

Subject, scope and method of research

The study covered the overall level of public spending, expressed as the percentage of gross domestic product in an annual perspective. Public spending is understood to denote monies spent from the national budget and from local budgets. The study included a group of 15 member states from the “old EU”. The purpose was to make such selection of countries which would ensure full comparability of methods of public spending calculation, not only from the formal perspective (*ex post* calculation comparison), but also taking into account the current situation¹. Such conditions did not appear in the group of 15 EU states until 1996, i.e. after the Community was expanded by Austria, Finland and Sweden. Hence, the study covered the period from 1996 to 2005.

The study used the growth rate of the real GDP as the measure which can be used to express the country’s economic growth rate and to compare the economic growth rate in different countries. The data on the level of spending and the GDP change rate were obtained from Eurostat – Statistical Office of the European Communities. In this study, basic statistical measures were employed, i.e. correlation coefficients which can be used in preliminary analysis, and an econometric model which was used to present the basic links between economic phenomena.

¹ As late as in mid-2007 Poland was in dispute with the European Commission about including – or not – the costs related to open pension funds in public spending.

Statistical analysis was performed with the use of Pearson's linear correlation coefficient and Spearman's rank correlation coefficient, which determine the level and tendency of linear relationship between random variables. The process of understanding reality with econometric methods in this study consists in selecting explaining and explained variables, gathering and arranging data, creating a linear model, statistical estimation of the model based on the observation results and in practical application of the model in an analysis of the contemplated economic phenomena².

Selected elements of the theory of spending

There are several premises from which ineffectiveness of a high level of government spending arises (GWARTNEY, HOLCOMBE, LAWSON 1998, p. 168–169):

The public sector is less effective than the private sector. In its actions, the government does not see maximisation of profit as its main goal, as the private sector does, nor does it act according to the market principles, which make a private entrepreneur strive to improve product quality, to seek innovativeness, to conduct research and make investments, owing to which the private sector accelerates technological and economic progress.

A high level of spending requires high taxes and assuming debts, which encumbers the whole economy. The government derives its income mainly from taxes and by assuming debts. Taxes encumber individuals' and legal persons' budgets, which reduces their investment outlays or savings which, in turn, adversely affects the GDP growth in a country.

An increase in public spending which goes beyond the basic government functions results in ineffective redistribution of income. Government spends public money in the less effective branches of the economy, such as agriculture, mining, etc. Subsidies cause their beneficiaries to act ineffectively as they, e.g. farmers, count on more public money rather than develop their production capacity. The same refers to tax relief and exemptions. Due to excessive and ineffective subsidies or poorly-allotted tax relief, public resources are transferred from the wealth-creating areas to those which do not make full use of their potential.

There are two general principles of the effect that the amount of public spending has on economic growth (SCHAEFER 2006, p. 1):

² In the part referring to statistical analysis, elements of the following work have been used: D. Roman 2007. *Wydatki publiczne a tempo wzrostu gospodarczego*, manuscript at KM WNE UWM Olsztyn.

- a certain amount of public spending is necessary to support the basic social, legal and economic structures of the economy,
- excessive public spending transfers resources from the private sector, thereby inhibiting economic growth.

Between the two principles there is a vast area of diverse and varied effects. It is vital that the cost of the state activities not to exceed the benefits. This refers to the “dead weight loss” concept, used by economists to determine the economic loss caused by ineffectiveness of state-financed projects (SCHAEFER 2006, p. 1).

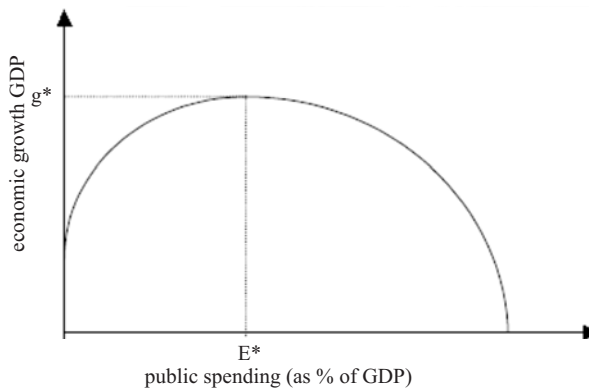


Fig. 1. Public spending vs. economic growth. Armeij curve

Source: PEVCIN (2004, p. 4).

The concept of the optimum amount of public spending has been popularised by ARMEY (1995), who created **Armeij curve**. He claimed that lack of government intervention in the economy would provoke anarchy and the level of production would be low as there would be no law or protection of property rights. Consequently, there would be no motivation for saving or investing for fear of forfeiture. Conversely, if all the decisions in a country were taken by the government, the production output would also be low. The most effective is a market economy with a low level of government intervention. In each economy there is some amount of public spending (point E^* in Fig. 1); an excess results in a decrease in productivity of state-financed projects and in encumbering the society by taxes and national debts. At this level, the marginal benefit from public spending is equal to zero (PEVCIN 2004, p. 4). The shape of Armeij curve is that of a reversed square function; it is described by the following formula (PEVCIN 2004, p. 6):

$$\Delta PKB_{it} = \beta_1 + \beta_2 SPENDING_{it} + \beta_3 SPENDING_{it}^2 + u_{it}$$

$$\text{for } \beta_1 \in R, \beta_2 \in R_+, \beta_3 \in R_-,$$

where:

- ΔPKB_{it} – explained variable – the annual change rate of the real gross domestic product, for country i in the year t ,
 $SPENDING_{it}$ – explaining variable – the level of total public spending, expressed as percent of GDP for country i in the year t ,
 i – Belgium, Denmark, ..., Italy,
 t – 1996, 1997, ..., 2005,
 $\beta_1, \beta_2, \beta_3$ – unknown parameters,
 u_{it} – random component

Parameter β_2 is a positive real number and it reflects a positive effect of a low level of public spending on economic growth. Whereas parameter β_3 is a negative real number and it reflects a negative effect of a high level of public spending. When the values of parameters β_1, β_2 and β_3 are known, it is possible to calculate the amount of public spending, measured as its share in GDP, for which the real GDP growth is the highest (PEVCIN 2004, p. 6).

The subject of economic growth and its determinants is a very interesting part of macroeconomics. One of its particularly interesting factors is public spending, whose effect on GDP has been examined by many people and teams and the results they have achieved are apparently ambiguous. Table 1 contains various results of studies in the field, where: G – denotes the total amount of public spending; GC – public spending on consumer/non-productive goods; GI – investment/productive spending; I – total investment.

Table 1
Results of studies into the effect of the level and structure of public spending on economic growth

Author	Subject of the study	Explaining variables	Main results of the effect that the explaining variables have on GDP growth
1	2	3	4
LANDAU (1983)	27 LDC	Categories of G	GC has a negative effect on GDP.
KORMENDI and MEGUIRE (1985)	47 countries	GC	GC does not affect GDP.
LANDAU (1986) Cross-section	65 LDC in the years 1960–80	Total G and spending by type	GC and GI have a significant negative effect. The effect of spending on education is very small.
RAM (1986)	115 countries in the years 1960–80	GC	GC has a negative effect.

cont. table 1

1	2	3	4
GRIER and TULLOCK (1989)	113 countries in the years 1951–80	GC	GC has a considerable negative effect, but it is positive for Asian countries.
ROMER (1990)	112 countries in the years 1960–85	G, CG, GI and human resources	GC has a negative effect, while the effect of GI is positive.
ALEKSANDER (1990)	13 OECD countries in the years 1995–84	GC, GI	GC has a negative effect on economic growth.
BARRO (1991)	98 countries in the years 1960–85	GC	GC has a negative effect on economic growth.
DEVARAJAN (1993)	14 OECD countries in the years 1970–90	G according to functional division (health care, education, transport, etc.)	Spending on health care and infrastructure have a positive effect on economic growth; spending on education and national defence have a negative effect.
EASTERLY and REBELLIO (1993)	100 ADC and LDC in the years 1970–88	G, GC, GI, and all other types of G as well as taxes and human resources	GI has a negative effect and GC has a negative effect, but GC, like infrastructure spending, has a positive effect in private investment.
LIN (1994)	62 ADC and LDC countries in the years 1960–85	I, G	In ADC countries, G does not have a significant effect; in LDC countries the effect is positive.
HANSON and HENREKSON (1994)	14 OECD countries in the years 1970–87	G, GC, GI, education sending, transfers	Transfers and G have a negative effect, the effect for education spending is positive, GI does not have a significant effect on economic growth.
DEVARAJAN (1996)	43 LDC countries in the years 1970–90	GC, GI and G according to functional division	The effect of GC is positive, that of GI – negative.
KELLER (1998)	22 OECD countries in the years 1970–95	GI, GC	GI consolidate growth, GC have a negative effect.
DUNNE and NIKOLAIDOU (1999)	Greece in the years 1960–96	Military and national defence spending, GC	Military and national defence spending has a negative effect, GC does not affect economic growth.
BATCHELOR (1999)	South Africa in the years 1964–95	Military spending	Military spending has a negative effect.
TANNIEN (1999)	52 countries in the years 1970–92	I, categories of G	GC has a negative effect. Spending on public goods hamper growth when G is high, national security spending has a positive effect.
FÖLSTER and HENREKSON (1999)	23 OECD countries in the years 1970–95	G	G has a significantly negative effect on economic growth.

Source: KWEKA, MORRISSEY (2000, p. 4-5).

The studies presented in Table 1 indicate that the effect of public spending and particular types of spending on GDP growth may vary. A negative effect of public spending increase was recorded in 56% of the presented studies; it was positive in 32%, while 12% of the studies indicate that there is no link between the examined variables.

This apparent discrepancy of results may mean that in the countries under study, where the effect on GDP was positive, the level of spending was below the optimum point on Armey curve. In the countries where the effect was negative, the level of public spending exceeded the optimum amount for those countries. The optimum level is different for each country, therefore the GDP growth rate may increase in one country and it may decrease in another with the same level of public spending; the summary examination may show a lack of correlation in the examined variables.

The level of public spending and economic growth in the EU countries

In the 15 EU countries, the public spending decreased by 2.1 percentage points on average. However, there were 4 countries in the group where the share of public spending in GDP was shown to have increased. The highest growth was observed in Portugal – by 5.1 percentage points, in Luxembourg by 3.1 and in Greece and in the UK by 2.6 and 1.6 points, respectively. It seems to be difficult to find common features which would justify such actions of governments and parliaments. But it appears that in all the four countries the level of public spending was very low as early as 1996; together with Ireland and Spain they made up a group in which the level did not exceed 45% of GDP. A real increase in spending was only observed in the countries where its level was the lowest in 1996.

The largest decrease in public spending was observed in three countries which in 1996 had the highest share of public spending in GDP. Finland reduced its level of spending by 8.7 percentage points (from 58.8% of GDP in 1996 to 50.1% of GDP in 2005), Sweden – by 8.2 points (from 64.8% of GDP in 1996) and Denmark – by 6.2 (from 59.3% of GDP in 1996). It is noteworthy that there are two countries in the group for which it was also the first year of their EU membership (Finland and Sweden). The third country in the group, whose membership began in 1996 – Austria – also recorded a large decrease in public spending: from 54.1% of GDP in 1996 to 49.9% of GDP in 2005, that is by 4.2 percentage points. In 1996, public spending was reduced not only in those countries where its level had been high. A relatively large decrease was recorded in Ireland – by 5.5 points – and in Spain – by 3.5 points – that is in two

countries which in 1996 were already among the countries with the lowest level of public spending.

Table 2
Public spending and the economic growth rate in 15 EU countries

Year	Annual average level of spending as the percentage of GDP	Annual average economic growth rate in the 15 EU countries (GDP, %)
1996	49.6	2.6
1997	48.4	4.0
1998	48.0	4.0
1999	47.3	4.3
2000	45.9	4.7
2001	46.4	2.3
2002	47.1	1.8
2003	47.7	1.5
2004	47.5	2.7
2005	47.2	2.3
EU countries on average 1996–2005	47.5	3.0

Source: The author's analysis based on data from Eurostat.

Undoubtedly, the results show a relationship between a level of public spending and the GDP level in a given year in a given country; hence, the changes may have been a reason of faster or slower GDP growth. This opinion may be supported by some data from Table 2. Taking into account the average level of spending for all the countries, it appears that it was the lowest (45.9% of GDP) in 2000, that is in the same year when the economic growth rate was recorded to be the highest – by 4.7% of GDP. However, this does not mean only real changes in public spending – nominal changes are also possible. Which may be indicated, for example, by a comparison of the first and the last three years included in the study. In the first period (the years 1996–1998) the average annual level of spending was about 48.7% of GDP, with the average annual growth rate equalling 3.5% of GDP. The same values for the last three years included in the study (2003–2005) are: spending – 47.5% of GDP, economic growth rate – 2.2% of GDP. Therefore, an average decrease in the spending with simultaneous decrease in the economic growth rate is observed, which may mean not only real, but also a nominal decrease in public spending.

Apart from the distinct decrease in the real level of public spending, it should be stressed that its unification in the countries included in the study is clearly observable. The distance between the extreme countries may have still

been considerably great in 2005 (22.5 percentage points), but it was lower than the difference in 1996, which was then equal to 25.2 points. On the one hand, the influence of the European Union on efforts to decrease the level of public spending is obvious (Austria, Finland, Denmark and Sweden), on the other, these are autonomous decisions taken by the governments and parliaments in such countries, as Ireland and Spain. From the perspective of this study, the progressive unification of public spending restricts the area of observation, leaving outside the scope of analysis the cases below 35% of GDP and those over 60% of GDP.

Economic growth as an increase in the real gross domestic product has been observed in all the countries included in the study. The mean value for all the countries in the period was close to 3% annually. The highest annual average growth was recorded in Ireland – 7.8%. Among the countries with the lowest growth rate values were Germany – 0.9% and Italy – 1.3%. A general analysis of GDP growth in subsequent years has shown that the period covered by the study saw progressive unification also in this field; however, the relationship with the economic cycle is more easily observable. The data in Table 2 show that initially (before 2000) the growth rate accelerated, which was followed by a significant slow-down in GDP growth rate in 3 subsequent years and unstable growth in the last two years – by 2.7% and by 2.3%.

The effect of public spending on the economic growth rate

The study of a relationship between the level of public spending and the economic growth rate was begun with a simple tabular method. Table 3 contains data which indicate the connection between a real public spending level and the economic growth rate. The figures in the table provide grounds for certain conclusions. The most characteristic relationship seems the one between a low level of public spending (below 45% of GDP) and the highest economic growth rate (4.2% GDP). An increase in public spending in turn reduces the growth rate, but the relationship does not seem to be non-linear. It should be clearly underlined that in both groups with a higher level of public spending, the annual economic growth rate is similar and equals 2.2% of GDP and 2.3% of GDP.

The analysis indicates that the relationship is close to linear. This may have several reasons, the most important of them probably being a relatively small area of differentiation of public spending, which makes it impossible to fully map the Armey curve. But the observation can be located in a section of the curve. The section is close to a straight line, which indicates that an increase in public spending is accompanied by a decrease in the economic growth rate.

Table 3

The effect of public spending on the real economic growth rate in 15 EU countries
in the years 1996–2005

Annual average level of public spending (as % of GDP)		Number of countries	Annual average GDP growth rate (%)
Interval	average level of spending in the group		
Below 45%	40.1	5	4.2
45% – 55%	47.7	4	2.2
Over 55%	53.5	6	2.3
Average in the EU	47.5	15	3.0

Source: The author's study.

On the other hand, however, one should be warned against drawing too unambiguous and general conclusions. Studies only confirm the relationships that are present in the 15 EU countries in 1996–2005. The analysed set of data is not so large and the period covered by the study could have been longer too. In addition, due to their EU membership, the countries are being progressively more and more unified, hence the area of differentiation of real public spending is decreasing. In none of the countries is it either lower than 35% or higher than 65%. All the individual observations made over the period of 10 years indicate that as many as 60% lie within a smaller interval between 45% and 55% of GDP. All these reservations and conditions include justification of the further procedures of the presented studies.

Analysis of the correlation between the real GDP growth rate and the level of public spending

An analysis of correlation has been performed with the two basic statistic coefficients: Pearson's correlation coefficient and Spearman's rank correlation coefficient.

The following is the formula for Pearson's correlation coefficient (PAWŁOWSKI 1969, p. 23):

$$r_{xy} = \frac{\text{cov}(x,y)}{s_x s_y} = \frac{\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^2} \sqrt{\frac{1}{n} \sum_{i=1}^n (y_i - \bar{y})^2}}$$

where:

- x – level of public spending in 15 EU countries in the years 1996–2005,
- y – the real GDP growth rate in 15 EU countries in the years 1996–2005,
- n – sample size,
- $\text{cov}(x,y)$ – covariance (co-variability between x and y),
- $s_x, s_y,$ – standard deviations of variable x and y .

The correlation coefficient of the examined variables is equal to -0.4664 and lies within the range [-1, 1], which means that there is a correlation between the variables. The coefficient is negative, which means that in the 15 EU countries during the period under study, an increase in the level of public spending negatively affected the real GDP growth rate.

Spearman's rank correlation coefficient is used to describe the correlation strength of two features if the features are measurable, and the examined population is small and when the features are qualitative and they can be arranged in an order.

The following is the formula for the rank correlation coefficient (PAWŁOWSKI 1969, p. 36):

$$r = 1 - \frac{6 \sum_{i=1}^n d_i^2}{n(n^2 - 1)}$$

where:

- d_i – differences between the ranks of corresponding values of the variables,
- n – sample size.

The correlation coefficient of the examined variables is equal to -0.354306 and lies within the interval [-1, 1], which means that there is a correlation between the variables, although the correlation is not exact, as the coefficient is closer to 0 than to -1. The coefficient is negative, which also confirms the negative effect of public spending on the real GDP growth rate in 15 EU countries in the years 1996–2005.

The econometric model

The model was developed with the statistical program by the name of GRETL, created by Allin Cottrell, Wake Forest University, North Carolina, USA. The program – an econometric software pack – has been under develop-

ment for several years. It is a GNU-licensed program, with free access for all users.

A linear relationship model was developed:

$$\Delta PKB_{it} = \beta_1 + \beta_2 WYDATKI_{it} + u_{it}$$

where:

- ΔPKB_{it} – explained variable – the annual change rate of the real gross domestic product, expressed in percent for country i in the year t ,
- $SPENDING_{it}$ – explaining variable – the level of total public spending, expressed as percent of GDP for country i in the year t ,
- i – Belgium, Denmark, ..., Italy,
- t – 1996, 1997, ..., 2005,
- β_1, β_2 – unknown parameters
- u_{it} – random component

The model parameters were estimated by the classic least square method with the use of data presented in Table 2 and 3, using 150 observations, from 1 to 150.

Printout of the model estimation

Table 4

Variable	Parameter	Standard deviation	Statistics t	Value of p
Const	10.2019	1.13141	9.017	< 0.00001
WYDATKI	-0.151312	0.0235907	-6.414	<0.00001
Arithmetic mean of the dependent variable = 3.01333				
Standard deviation of the dependent variable = 0.13823				
Sum of squares of remainders = 533.057				
Standard deviation of remainders = 1.89782				
Determination coefficient R-square = 0.59899				

Source: The author's own study.

In the estimated form, the model has the following form:

$$\Delta PKB_{it} = 10.2019 - 0.151312 SPENDING_{it}$$

(1.13141) (0.0235907)

The model is well-fitted to reality. The theoretical values of GDP growth rates in selected EU countries differ from the actual values by 0.13823% on

average, which accounts for 4.58% of the average GDP growth rate in 15 EU countries during the period under study.

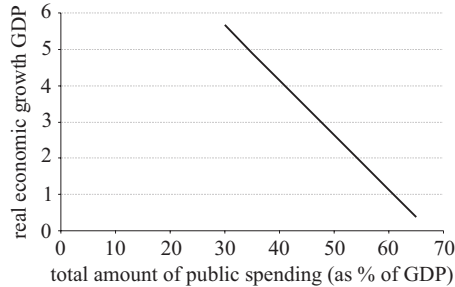


Fig. 2. The relationship $\Delta PKB_{it} = 10,2019 - 0,151312 WYDATKI_{it}$
Source: The author's own study.

Figure 2 shows a linear relationship of the effect of total public spending – measured as the percent share in the GDP – on the annual real growth rate of the gross domestic product in 15 EU countries in the years 1996–2005. The relationship is expressed by the formula $\Delta PKB_{it} = 10,2019 - 0,151312 SPENDING_{it}$, where the value of parameter at $SPENDING_{it}$ (-0.151312) informs, that **an increase in the level of public spending by 1% corresponds to a decrease in the real GDP growth rate by 0.151312% on average**. The estimated model confirms the hypothesis of a negative effect of an increase in public spending on the real GDP growth rate in 15 countries of the European Union.

Summary and conclusions

The study shows that an increase in the real level of public spending in 15 EU countries reduced the real gross domestic product growth rate. However, the relationship between the contemplated economic phenomena is not like a reversed letter U. Conversely, it is more similar to a straight line.

1. The studies into the effect of public spending on the gross domestic product growth rate have produced conclusions that may seem contradictory, or even mutually exclusive. They mainly indicate that there is a negative relationship, i.e. an increase in the level of public spending reduces the GDP growth rate. However, some of the studies have led to quite an opposite conclusion, i.e. that an increase in the level of public spending results in an increase in the GDP growth rate. Few of the studies have concluded that there is no cause-effect relationship. Such discrepancies may mean that in the

countries where increasing the level of spending positively affects the GDP growth rate, its level so far has been below the optimum point on the Armey curve. On the other hand, where the effect was negative, the level of public spending could exceed the optimum values for the given group of countries. The third group includes the countries where the current level of spending is close to the optimum.

2. The overall level of public spending in the EU countries may vary, but the majority lies within the interval from 45 to 55% of GDP. The study has shown further restriction (unification) of this, relatively small, area. One should not think that those were the autonomous decisions of governments and parliaments of the countries – among other factors, the changes have been caused by the influence of the European Union. The examples of Finland, Denmark, Austria and Sweden reveal the distinct role of the European Community in reducing public spending, whereas in Spain and Ireland, the process has resulted from a conscious decision of their governments and parliaments.

3. The economic growth rate in the EU countries coincides with the course of the economic cycle. Hence, it is relatively high for the years 1997–2000 and distinctly lower for the three subsequent years (2001–2003). In the last two years covered by the study (2004–2005), the growth returned, but it was unstable. Another feature is progressive unification, which means that the EU countries are within an increasingly narrow interval in terms of their GDP growth rate values.

4. The study found that the relationship between the level of public spending and the economic growth rate in the 15 EU countries is close to linear. This is justified by a narrow field of observation, covering a relatively small range of the public spending level, a short period of study and a small number of countries. The study also found that an increase in the public spending level is accompanied by a decrease in the real GDP growth rate by 0.151312% on average. The actual growth rate of the real GDP differ from those estimated by the model by $\pm 0.13823\%$. The most effective countries in terms of the GDP growth rate were those countries in which the level of public spending was the lowest. In the examined population the level is close to 40% of GDP.

5. This study has provided important contribution for justification of fiscal criteria of convergence, defined in the Maastricht Treaty. Establishing the lowest acceptable level of the public finance deficit at 3% of GDP is aimed at maintaining the economic stability not only in the particular member states, but across the entire European Community. Observance of such criteria will be achieved by streamlining – i.e. relative reduction – of public spending. In consequence, the economic policy achieves two goals: the economic stability is

maintained and the economic growth rate increases. Efforts should be made to achieve both goals for each of the member states and for the entire European Union as an economic community.

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INFLATION IN THE EU COUNTRIES AS COMPARED TO SELECTED STATES IN THE WORLD

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Key words: inflation, integration, globalisation.

Abstract

Level and convergence of inflation rate in the EU states was examined with the use of three groups of countries. The first group was composed of the 12 richest and most developed countries of the world that do not belong to the EU. Another control group included the 12 poorest countries of the world, and the third one included the so-called "former" European Union states. The conducted analysis of the period 1980–2006 indicated that the reduction of inflation rate was faster and stronger in rich countries – both as regards EU members and those that remain outside this integration group – than in poor countries. Although a long-term convergence of inflation in the EU countries is the highest, the existing differences show that the main cause of its reduction is the neo-liberal concept of maintaining a constant low rate of price increase as one of the conditions ensuring a stable rate of economic growth.

INFLACJA W KRAJACH UNII EUROPEJSKIEJ NA TLE WYBRANYCH PAŃSTW NA ŚWIECIE

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Słowa kluczowe: inflacja, integracja, globalizacja.

Abstrakt

Poziom i zbieżność stopy inflacji w krajach Unii Europejskiej zbadano w trzech grupach krajów. Pierwsza to 12 najbogatszych i najbardziej rozwiniętych krajów świata, które nie należą do UE. Druga grupa, kontrolna, to 12 najbiedniejszych krajów świata i trzecia – 15 tzw. awnych krajów Unii Europejskiej. Analiza lat 1980–2006 wykazała, że stopa inflacji obniża się szybciej i silniej w krajach bogatych, zarówno należących do UE, jak i pozostających poza tym ugrupowaniem integracyjnym, niż w krajach biednych. Długookresowa zbieżność inflacji w krajach UE jest wprawdzie największa, ale istniejące różnice wskazują, że główną przyczyną jej obniżania jest neoliberalna koncepcja utrzymania trwałego niskiego tempa wzrostu cen jako jednego z warunków stabilnego tempa wzrostu gospodarczego.

Introduction

The theory of integration distinguishes a horizontal integration, consisting in including an increasing number of countries into a commonly realized policy, and a vertical integration. The vertical integration consists in increasing the range and the scope of relations between the countries. A theory regarding integration of states which apply the market economy system distinguishes five stages of the process of integration between countries (HELLER, GALKO 2005, p. 67).

- free trade area,
- customs union,
- common market,
- economic and monetary union,
- full economic union.

Currently, the most advanced integration group is the European Union, now at the stage of building an economic and monetary union. The European Union Treaty, signed in Maastricht on February 7, 1992 (the Treaty was effective on November 1, 1993) specified the basic characteristics of the Union, its Central Bank, national budgetary procedures within the Union, procedures governing the decision making processes in the Community institutions, criteria that the EU countries should meet in order to join the Economic Union, as well as the schedule of its formation (*Unia Europejska*. 2002). The European Union Council, at the summit in Copenhagen in 1993, specified the criteria for countries wanting to join the European Union. It was established that countries that have already been, or will be in the future, associated with the EU will be accepted to join the Union provided that they submit such an application and are able to satisfy the political and economic conditions of membership. One of these criteria is the obligation to participate in the formation of the Economic and Monetary Union. These countries are obliged to conduct such budgetary and monetary policy that would satisfy the convergence criteria of Maastricht as regards deficit, public debt and inflation (POPIUK-RYSIŃSKA 1998, p. 116, DOLIWA-KLEPACKI 2001, p. 82). After the summit in Copenhagen, candidate states, while submitting their application for membership, committed themselves to make the necessary adjustments to join the Economic and Monetary Union.

According to the traditional theory of optimum currency areas of R. Mundell, countries can create an optimum area if they are able to handle asymmetric shocks. One of the most important optimization criteria is the convergence of inflation (CZARCZYŃSKA, ŚLEDZIEWSKA 2007, p. 153). Similar preferences of unemployment and inflation rates, understood as substitution values and diversification of products as a criterion of optimum currency area,

were proposed by Kenen as early as in 1969. Analyses of issues related to the inflation level were presented by CORDEN (1972), FLEMING (1971) and GRAUWE (1975). This condition means *ceteris paribus* a higher possibility of maintaining the balance of current payments in case of more rigid exchange rates within a given area, with a similar inflation rate, as compared to a differentiated one. The lack of external balance often results from the differences between national inflation rates, caused by disproportions in structural development, various level of trade “aggression” within the Union, as well as different preferences in conducting a national monetary policy (CZARCZYŃSKA, ŚLEDZIEWSKA 2007, p. 164). Therefore, having in view the macroeconomic safety and the protection of a common currency against excessive inflation, only those states that have a good economic situation which is similar (convergent) to the situation of other members of the zone can be admitted to the Euro zone. Member states, when signing the Maastricht Treaty, committed themselves to a relatively high unification of inflation level.

In the long term, the Philips curve is vertical, which means that there is no substitutability between inflation and unemployment. The Maastricht Treaty, to some extent, provides administrative protection against the risk that national politicians, using an administrative method, may choose suboptimal actions (a decrease in unemployment rate at the cost of high inflation). The point here is not compliance with measurable criteria of convergence, but also the independence of the central bank, bestowed by the Treaty (both on the Union level and on the national level), the basic aim of which is to maintain a stable level of prices. The autonomy of the central bank provides an efficient solution, reducing inflation both in theory and in practice (BRZOZOWSKI, GIERAŁTOWSKI, MILCZAREK, SIWIŃSKA-GORZELAK 2006, p. 163). Apart from this, the Stability and Growth Pact in an administrative way governs the rules of fiscal policy, which is intended to eliminate the pressure from this policy on the increase in inflation.

Fears that joining the Euro zone would result in higher inflation turned out to be groundless (MONGELLI, VEGA 2006, ANGELONI et al. 2006). Convergence criteria from Maastricht and the Stability and Growth Pact impose an obligation of maintaining stable macroeconomic conditions. In addition, the states outside the Euro zone comply with these rules (Denmark, United Kingdom and Sweden).

However, it is not the fact of joining the Euro zone that results in low and unified inflation. Integration cannot be discussed in isolation from the phenomenon of globalisation. The current phenomenon of globalisation is inseparably related to the liberalization of international trade, freedom of capital, people and information flow. The process of economical globalisation is, as a matter of fact, the expansion of capital over the state borders, while

observing at the same time the principles of liberalized free market. There is a group of countries, in which the shortage of capital resources provides a considerable restraint to development. This capital could be used, but a numerous group of its potential recipients competes for the access to its resources. The owner and the holders of its resources direct them to the areas where they can bring about appropriate profits (HELLER 2003, p. 22). Besides potential profits, also the safety of involved means is taken into consideration. Inflation is one of the most serious dangers for money holders, since it reduces the real value of money. Consequently, a country beset with high inflation is not attractive for investors. A free flow of goods and services can contribute to "importing" inflation along with import of goods and services. If exchange rates are made more rigid, inflation – apart from the fact that it causes imbalances in the monetary market – will deteriorate export competitiveness. It can be expected that in an increasingly globalised world, inflation preferences would begin to even out.

What is also important is the individual approach of specific countries to the problem of inflation. In the long term, inflation is a monetary phenomenon – in the sense that it exists when it is established or even tolerated by monetary authorities (ANGELONI et al. 2006). Of course, inflation is not established by anybody *ex ante*, yet monetary authorities, while using a monetary policy, strive to reach the assumed aim. It is particularly clear with the strategy of direct inflation target, where a targeted inflation rate (assumed in advance) constitutes a monetary anchor, while the aim of monetary and fiscal policy is to reach a planned inflation objective (CORBO, SCHMIDT-HEBEL 2002, p. 7).

Better developed countries have departed from the policy of developed interventionism, based on the Keynesian policy, in favour of the application of policy recommended by neo-liberal trends. At the beginning of the eighties, "founders of anti-inflation policy in the United Kingdom and, to a more limited extent, in the USA (and afterwards in most OECD countries) were inspired by the achievements of a new classical economy, and at the same time explicitly renounced from any relations with the Keynesian thought" (WOJTYNA 2000, p. 135).

Neo-liberal trends, such as monetarism of Milton Friedman, take the view that the best they can do is to ensure a low and stable inflation, ideally a "zero" one (FRIEDMAN 1994, p. 271). A conception of rational expectations leads to more radical anti-Keynesian conclusions: governments can influence nominal variables, such as inflation rate, but they are helpless toward real variables (BLAUG 2000, p. 725). Criticism of discretionary economic policy, initiated by Friedman, has been sustained by a new classical macroeconomy, which is of the opinion that the only certain effects of discretionary policy are inflation and an increase in uncertainty in business processes. Finn Kydland and Edward

Prescott, using the hypothesis of rational expectation and game theory, prove that the best economic policy is based on steady principles and reliability (GODŁÓW-LEGIEDŹ 2005, p. 562), and inflation-targeting policy is also ranked as such. In the 1990s, the application of inflation-targeting policy became common in developed countries (the first was New Zealand in 1990), which is related to stable and reliable money. Policy targeted at price stability results from the conviction that it contributes, to a high extent, to the improvement of living standards of citizens and has a positive effect on the economy, which particularly refers to economical growth and employment. Institutional solutions, such as an independent central bank, the basic aim of which is to ensure the stability of prices, serve this purpose (SZELAĞ 2003, p. 12).

In the light of quoted ideas and opinions, it should be interesting to examine the effect of the economic integration within the European Union on the process of lowering and unifying inflation rates in its member states.

Aim, scope and methodology of research

The aim of the research was to compare the average inflation rate and its dispersion in 15 countries of the European Union with the richest and the poorest countries of the world that do not belong to the EU. An annualised unweighted mean rate of inflation based on CPI was used for this purpose. Dispersion was measured with the application of a standard deviation and a coefficient of variation, which were calculated separately for the three examined groups of countries in subsequent years.

Two research hypotheses were formulated:

Hypothesis 1: In 1980–2006, the best developed countries demonstrated a global tendency to reduce inflation rate and to maintain it at a low level, regardless of EU membership.

Hypothesis 2: The European integration process improves the unification of inflation among member states, but a dominating factor is the level of development of 15 countries, the so-called “old” EU.

The time frame of the research covers the period of 1980–2006. The choice of 1980 as a starting point is dictated by the fact that the European Currency System became effective on March 13, 1979 (BOROWIEC 2001, p. 27). In addition, such a long period of time covers several stages of integration, i.e. customs union, common market, economic and monetary union and direct stages, such as an incomplete common market.

Three groups of countries were compared in order to examine whether the proceeding unification of inflation rate among the countries of the European Union is the effect of proceeding integration or constitutes a global tendency.

The first group consists of the 15 countries that formed the European Union in 1995. Austria, Finland and Sweden joined the EU in 1995, but as early as in the 1970s, agreements were concluded with those states (also other members of EFTA) that anticipated creation of a zone of free trade in industrial goods within a few years (DOLIWA-KLEPACKI 2001, pp. 107–108). In the case of Spain and Portugal, the process of integration began earlier than the date of their formal admission to the EEC. The convergence criteria of Maastricht were also mandatory for other countries, the ones that negotiated the possibility of maintaining their national currencies. As follows from this, the research on the process of inflation rate formation should also cover Denmark, Sweden and the United Kingdom. Consequently, the 15 states which formed the EU in 1995 were treated as one integration group for the whole period covered by the research.

The second group is composed of the 12 richest and most developed countries of the world, which are not members of the EU. A selection criterion for this group was the highest Gross National Income per capita, according to the data provided by the International Monetary Fund and non-membership in the European Union. This group included: Canada, Japan, USA, Australia, New Zealand, Norway, Switzerland, Hong Kong, Singapore, Taiwan, Korea and Israel.

The third control group is composed of 12 countries which, according to the International Monetary Fund, had the lowest national income per capita, and for which the data concerning inflation were available. They include Burundi, Malawi, Ethiopia, Guinea Bissau, Myanmar, Sierra Leone, Rwanda, Niger, Madagascar, Uganda, Gambia and Tanzania.

The research used a database of the International Monetary Fund, *World Economic Outlook 2007*.

Results

In the case of all examined groups of states, the decade of the 1980s had a higher inflation rate in comparison to the later period. A decreasing trend is observed in all examined groups. In the short term, prices depend on the result of numerous forces, but in the long term, monetary authorities are responsible for the level of inflation. In the period covered by the study, a global tendency towards lower inflation rates can be noticed. According to the monetarists, a new classical economy and a supply economy with stable currency creates a basis for stable functioning of national state economies and long-term economic growth. In the group of the poorest states examined, the average rate of inflation was significantly higher than in both groups of the richest countries under analysis.

The average level of inflation was the highest in the poorest countries group throughout the period of analysis. The exception was 1984, when the average inflation in the group of the richest states that do not belong to the EU was 34.4% and exceeded the average rate of inflation in the poorest countries (22%). Within 27 years under examination, the average inflation rate in the group of the poorest countries ranged from 7.7% (in 2006) to 52% (in 1987). Rich countries which are not members of the EU reported the lowest average growth of price level in 1999 (0.9%), and the highest in 1984 (34.4%). The average inflation rate in the EU ranged from 1.5% in 1999 to 11.9% in 1981. An arithmetic mean is a value sensitive to extreme values, and particularly to high ones. Until 1987, averaged results in the richest countries outside the EU are inflated by Israel (the maximum inflation rate was 368% in 1984). Israel is one of the most developed countries in its region, actively participating in globalisation processes, even aspiring to membership in the EU. Those arguments weigh in favour of including Israel in the research. Figure 1 presents an unweighted mean rate of inflation in selected groups of countries (including Israel).

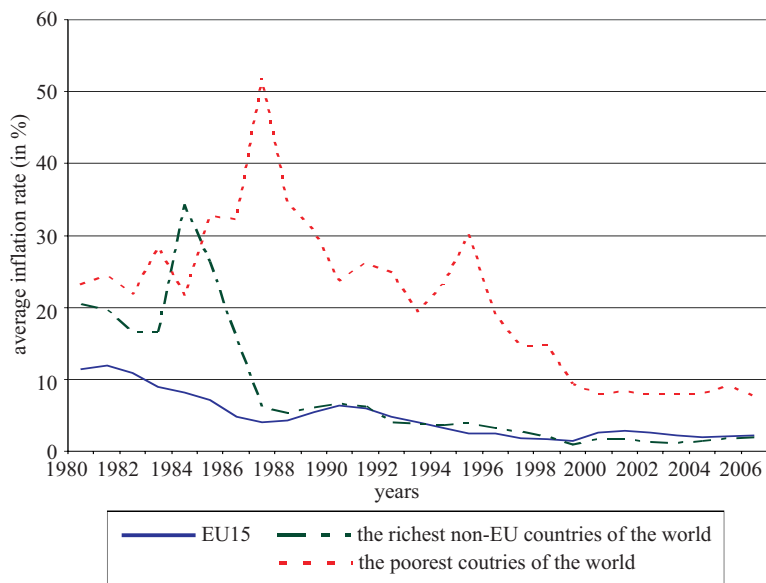


Fig. 1. Average inflation

Source: Own work on the basis of the data provided by the International Monetary Fund, *World Economic Outlook 2007*.

Figure 2 omits Israel. After eliminating this country from the study, the average inflation rate in the group of rich countries that are not EU members does not exceed 12.2% and does not significantly differ from the average in the EU,

while in the 1980s and at the beginning of the 21st century it is even lower. Differences in the average level of inflation between the two groups of rich countries (EU members and non-EU members) are not large, and in the last decade they do not exceed 1.5 per cent. Israel carried out an efficient anti-inflation campaign and in the other half of the examined period, the rate of inflation in this country does not significantly differ from the results obtained by other developed countries.

However, the average unweighted rate of inflation in the group of the poorest countries is significantly much higher. In the 21st century, the poorest states have been able to maintain inflation rates below 10% (the average in 2000–2006 is 8.2%), however it is still about 6 percentage points higher than in both groups of rich states. The results obtained support hypothesis 1. Highly developed countries, both belonging to the EU and remaining outside this group, had a similar decrease in inflation levels during the period under examination. Therefore, the EU membership did not result in lowering the level of inflation among the richest European states to a much higher extent than occurred in the group of the 12 richest countries of the world, which did not form the European Union.

In order to measure diversity inside the groups of states under examination, a standard deviation was calculated for individual years. Standard deviation that decreases over time proves the growth of inflation convergence

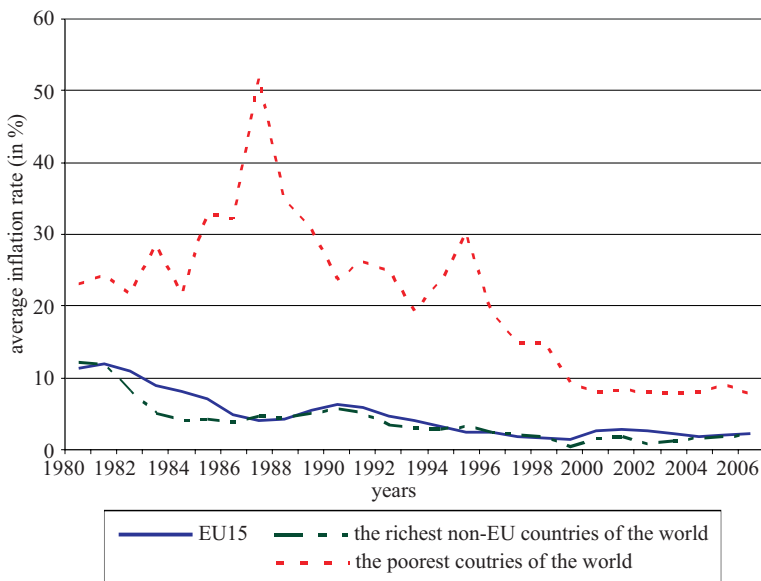


Fig. 2. Average inflation excluding Israel

Source: Own work on the basis of the data provided by the International Monetary Fund, *World Economic Outlook 2007*.

in all groups under examination. The scale of this phenomenon is also important. In the EU countries, standard deviation decreased from 5.5 in the 1980s to 0.7 at the end of the period under examination. Among the rest of the richest countries, standard deviation of inflation grew in the first half of the 1980s (taking Israel into consideration), reaching the value of 105, and afterwards, successively decreasing, reaching the value of slightly over 1 at the end of the period under examination.

If we omit Israel, beset with a very high inflation in the 1980s, the maximum value of standard deviation is 7.2 in 1980 (Fig. 3).

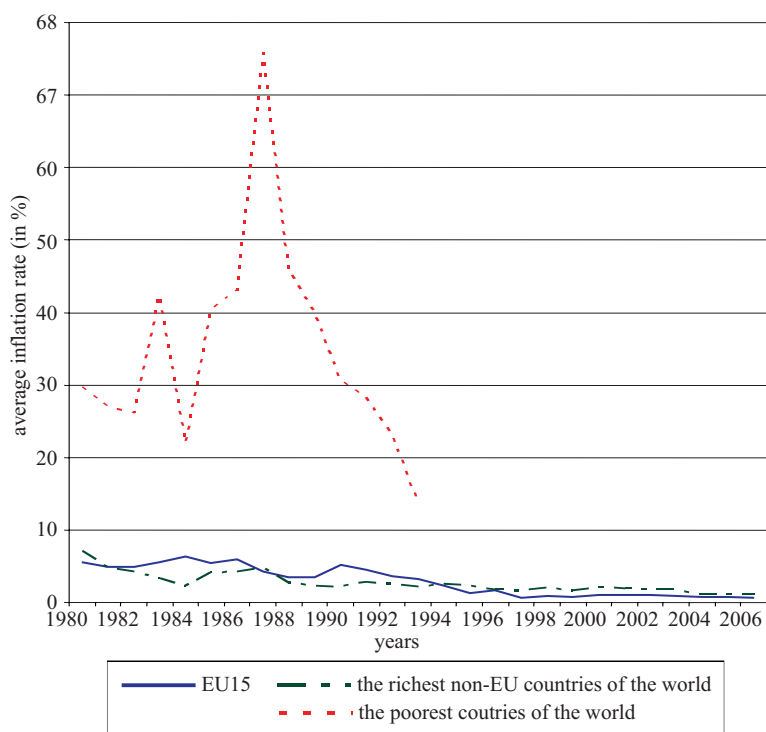


Fig. 3. Standard deviation of inflation

Source: Own work on the basis of the data provided by the International Monetary Fund, *World Economic Outlook 2007*.

Inflation dispersion, measured with the use of standard deviation in both groups of rich states, does not significantly differ. In addition, the rate of its decrease is similar.

Definitely stronger diversification of the inflation rate is observed in the group of the poorest countries under examination. The value of standard deviation ranges from 75 in 1987 to 4.5 in 2005. It is only starting in 1988 that

a decrease of standard deviation, i.e. an increase in inflation convergence can be noticed, but for the whole period under analysis, a much higher level of diversification is observed in comparison to the other two groups. This means that the process of European inflation had no effect on increasing or accelerating the unification of inflation. What seems to be more significant is the adoption of a neo-liberal policy, which is characteristic of rich countries.

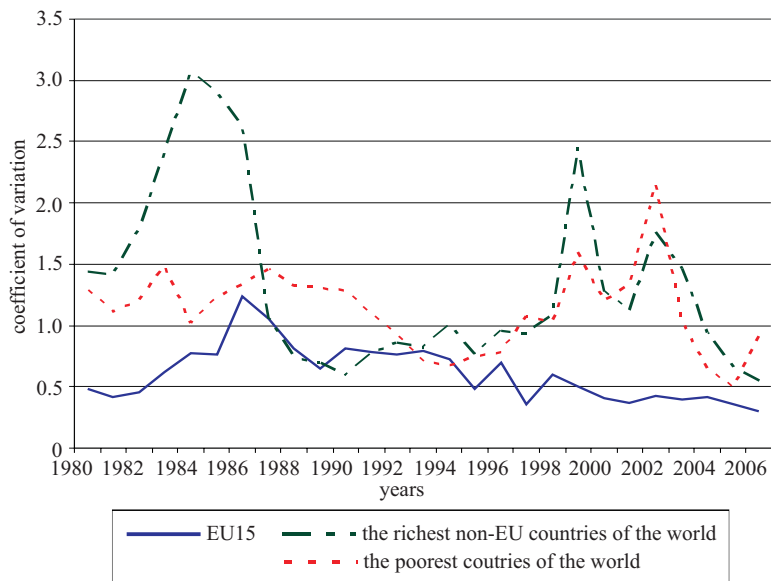


Fig. 4. Coefficient of inflation variation

Source: Own work on the basis of the data provided by the International Monetary Fund, *World Economic Outlook 2007*.

Standard deviation is a measurement of absolute differentiation. It can have a high value for the last of the examined groups, since it is characterized by the highest average inflation. Therefore, the coefficient of variation was also calculated, as it provides an absolute measurement (Fig. 4).

No decreasing tendency of the coefficient of variation is observed in the two groups of countries that do not belong to the EU, both as regards the richest and the poorest ones. Additionally, in both of these groups, the value of this coefficient is two or three times higher than in the EU states. The growth in the coefficient of variation in the group of the richest countries is the result of deflation which occurred in 1999–2003 in two countries (Japan and Hong Kong). After eliminating Japan and Hong Kong, which were troubled with deflation, the average value of the coefficient of variation in 1980–2006 is 1.14,

while in 1990–2006 it is 0.79, which means that it is still higher than for the group of EU members (0.69 and 0.54, respectively). For the EU countries, the value of the coefficient of variation grows to 1986, reaching a maximum value of 1.23, to successively drop afterwards and reach the value of 0.3 in the last year under examination. The coefficient of variation starts to decrease in 1987. In that year, the Single European Act became effective, which boosted the process of building the common market (GAWLIKOWSKA-HUECKEL, ZIELIŃSKA-GŁĘBOCKA 2004 p. 76). This means that intensification of integration, which is necessary to enter its subsequent level – a common market – initiates unification of monetary policy results. In almost the whole period under examination, the value of the coefficient of variation is lower for the European Union countries than for the remaining ones, therefore, the relative unification of inflation is higher.

However, taking into consideration the fact that in both groups of the richest countries (particularly in the second half of the period under examination) there is low inflation, diversification of its level can be regarded as low. A definitely higher inflation coefficient of variation is characteristic for the group of the poorest countries. Inflation convergence is higher among the richest countries than among the poorest ones. Additionally, the process of integration favours the convergence of inflation, although the analysis of statistical data does not indicate that the process of European integration played a key role here. In view of the foregoing, hypothesis 2 can be regarded as positively verified.

Summary

In the mid-1980s, a very characteristic and significant process began, which is particularly visible in highly developed countries. It was assumed at that time that one of the conditions of permanent and stable economic growth was a low rate of price growth. This neo-liberal trend resulted in the practice of rich (highly developed) countries to rapidly seek a lowering of the rate of price growth, followed by the relatively permanent maintenance of inflation at a low level.

As results from the research, diversification of inflation decreases inside all three groups of states under examination, as measured by the standard deviation. Differences in inflation dispersion between the EU countries and the richest, non-EU states are not significant. However, diversification of inflation level is significantly higher among the poorest countries of the world. Convergence of inflation, measured with a coefficient of variation, successively proceeds from 1987 among the EU countries. In comparison with the two

control groups, it can be claimed that integration may contribute to slightly higher absolute convergence of inflation.

The process of European integration, which includes 15 countries of the so-called “former” European Union, had no significant effect on the acceleration of inflation decrease. The result obtained is rather a worldwide trend, characteristic particularly for rich countries. The provisions of the Maastricht Treaty – as regards criterion of inflation convergence – may have been helpful, yet they did not play a highly significant role in the process of inflation convergence and keeping it at a low level.

However, if in the economically-backward countries these processes run at a much slower rate, it may turn out that in the group of the so-called 12 “new” EU members, the institutional effects of the Maastricht Treaty indeed played a larger role in reducing the rate of price increase. It is possible that imitation of institutional solutions that favour the stability of prices already during the candidate period helps to improve living standards for citizens and has a positive effect on the economy, in particular, on economic growth and employment.

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Annex 1
Inflation in the richest non-EU countries in 1980-2006

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Canada	10.20	12.50	10.70	5.90	4.30	4.00	4.10	4.40	4.00	5.00	4.80	5.60	1.50	1.90
Japan	7.80	4.90	2.70	1.90	2.30	2.00	0.60	0.10	0.60	2.30	3.10	3.30	1.70	1.30
United States	13.50	10.40	6.20	3.20	4.40	3.50	1.90	3.60	4.10	4.80	5.40	4.20	3.00	3.00
Australia	10.20	9.60	11.20	10.10	3.90	6.70	9.10	8.50	7.30	7.50	7.30	3.20	1.00	1.80
New Zealand	17.10	15.50	16.10	7.40	6.10	15.40	13.20	15.80	6.40	5.70	6.10	2.60	1.00	1.30
Norway	10.90	13.70	11.30	8.40	6.30	5.70	7.20	8.70	6.70	4.50	4.10	3.40	2.30	2.30
Switzerland	4.00	6.50	5.70	2.90	2.90	3.40	0.80	1.40	1.90	3.20	5.40	5.90	4.00	3.30
Hong Kong	4.40	9.50	10.90	10.00	8.60	3.60	3.60	5.70	7.80	10.20	10.30	11.30	9.50	8.80
Singapore	8.50	8.20	3.90	1.00	2.60	0.50	-1.40	0.50	1.50	2.30	3.50	3.40	2.30	2.30
Taiwan	19.00	16.30	3.00	1.40	0.00	-0.20	0.70	0.50	1.30	4.40	4.10	3.60	4.50	2.90
Korea	28.70	21.40	7.20	3.40	2.30	2.50	2.80	3.00	7.10	5.70	8.60	9.30	6.20	4.80
Israel	111.70	105.80	109.60	143.00	368.70	268.90	147.60	20.30	14.70	17.80	17.20	19.00	11.90	10.90

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Canada	0.20	2.20	1.60	1.60	1.00	1.70	2.70	2.50	2.30	2.70	1.80	2.20	2.00
Japan	0.70	-0.10	0.10	1.80	0.70	-0.30	-0.40	-0.80	-0.90	-0.20	0.00	-0.60	0.20
United States	2.60	2.80	2.90	2.30	1.50	2.20	3.40	2.80	1.60	2.30	2.70	3.40	3.20
Australia	1.90	4.60	2.60	0.30	0.90	1.50	4.50	4.40	3.00	2.80	2.30	2.70	3.50
New Zealand	1.80	3.70	2.30	1.20	1.30	-0.10	2.60	2.60	2.60	1.70	2.30	3.00	3.40
Norway	1.40	2.40	1.20	2.60	2.30	2.30	3.10	3.00	1.30	2.50	0.40	1.60	2.30
Switzerland	0.90	1.80	0.80	0.50	0.00	0.80	1.60	1.00	0.60	0.60	0.80	1.20	1.00
Hong Kong	8.80	9.00	6.30	5.80	2.80	-3.90	-3.70	-1.60	-3.00	-2.60	-0.40	0.90	2.00
Singapore	3.10	1.70	1.40	2.00	-0.30	0.00	1.30	1.00	-0.40	0.50	1.70	0.50	1.00
Taiwan	4.10	3.70	3.10	0.90	1.70	0.20	1.30	0.00	-0.20	-0.30	1.60	2.30	0.60
Korea	6.30	4.50	4.90	4.40	7.50	0.80	2.30	4.10	2.80	3.50	3.60	2.80	2.20
Israel	12.30	10.00	11.30	9.00	5.40	5.20	1.10	1.10	5.70	0.70	-0.40	1.30	2.10

Source: International Monetary Fund *World Economic Outlook 2007*.

Table 2
Annex 2
Inflation in the poorest countries of the world in 1980–2006

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Burundi	1.2	12.2	5.9	8.2	14.3	3.8	1.7	7.1	4.5	11.7	7	9	5.3	9.7
Malawi	19.2	12	9.5	13.8	19.7	10.6	14.2	25.1	33.8	12.5	11.9	8.2	23.2	22.8
Ethiopia	12.4	1.9	7.8	3.6	-0.3	18.4	5.5	-9.1	2.2	9.6	5.2	20.9	21	10
Guinea-Bissau	64.8	41.9	16.5	23.3	64.9	112.7	26.5	119.6	60.3	80.8	33	57.6	69.4	48.2
Myanmar	-0.1	1.4	5.2	5.9	5.2	6.3	14.7	17.6	24	23.8	21.9	29.1	22.3	33.6
Sierra Leone	12.9	23.4	26.9	68.5	66.6	76.6	80.9	178.7	34.3	60.8	110.9	102.7	65.5	22.2
Rwanda	7.2	6.4	12.6	6.6	5.4	1.7	-1.1	4.1	2.9	1	4.2	19.6	9.5	14.9
Niger	7.3	24.3	10.4	1.6	8.4	-1.1	-3.2	-6.6	0.6	-0.8	-2	1.5	-5.9	-0.3
Madagascar	18.3	30.5	31.9	19.5	9.7	10.6	14.5	15.5	26.3	9	11.8	8.5	14.6	10
Uganda	99.2	100	100	150	16.7	100	143.8	215.4	166.7	130.8	45.4	20.8	42.2	30
Gambia	5	7.9	8.2	10.6	22.1	18.3	56.6	23.7	11.5	8.3	12.2	8.6	9.5	6.5
Tanzania	30.2	30.3	25.7	28.9	27.1	36.1	33.3	32.4	47.7	20.6	22.6	28	21.9	23.6

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Burundi	14.7	19.4	26.4	31.1	12.5	3.4	24.3	9.3	-1.3	10.7	8	13.4	2.8
Malawi	34.7	83.1	37.7	9.1	29.8	44.8	29.6	27.2	14.9	9.6	11.6	12.3	9
Ethiopia	1.2	13.4	0.9	-6.4	3.6	4.8	6.2	-5.2	-7.2	15.1	8.6	6.8	12.3
Guinea-Bissau	15.2	45.4	50.7	49.1	8	-2.1	8.6	3.3	3.3	-3.5	0.8	3.4	1.9
Myanmar	22.4	28.9	20	33.9	49.1	10.9	-1.7	34.5	58.1	24.9	3.8	10.1	26.3
Sierra Leone	24.2	26	23.1	14.6	36	34.1	-0.9	2.6	-3.7	7.5	14.2	12.1	9.5
Rwanda	47.3	48.2	13.4	11.7	6.8	-2.4	3.9	3.4	2	7.4	12	9.2	5.5
Niger	35.5	10.9	5.3	2.9	4.5	-2.3	2.9	4	2.7	-1.8	0.4	7.8	0.1
Madagascar	39	49	19.8	4.5	6.2	8.1	10.7	6.9	16.2	-1.1	14	18.4	10.8
Uganda	5.8	6.8	7.5	7.7	5.8	0.2	5.8	4.5	-2	5.7	5	8	6.6
Gambia	1.7	7	1.1	2.8	1.1	3.8	0.9	4.5	8.6	17	14.2	3.2	1.5
Tanzania	37.1	24	20.5	15.4	13.2	9	6.2	5.1	4.6	4.4	4.1	4.4	5.8

Source: International Monetary Fund *World Economic Outlook 2007*.

Table 3
Annex 3
Inflation in the EU15 countries in 1980–2006

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Austria	6.3	6.8	5.4	3.3	5.7	3.2	1.7	1.4	1.9	2.2	2.8	3.1	3.4	3.2
Belgium	6.7	7.6	8.7	7.7	6.4	4.9	1.3	1.5	1.2	3.1	3.5	3.2	2.4	2.8
Denmark	12.3	11.7	10.1	6.9	6.3	4.7	3.7	4	4.5	4.8	2.6	2.4	2.1	1.2
Finland	11.6	12	9.3	8.4	7	5.8	2.9	4.1	5.1	6.6	5	4.2	2.9	2.2
France	13.1	13.3	12	9.5	7.7	5.8	2.5	3.3	2.7	3.5	3.4	3.2	2.4	2.1
Germany	5.4	6.3	5.3	3.3	2.4	2.1	-0.1	0.2	1.3	2.8	2.7	3.5	5	4.5
Greece	6.6	7.6	8.7	7.7	6.3	19.3	23	16.4	13.5	13.7	20.4	19.5	15.9	14.4
Ireland	18.3	20.2	17.2	10.4	8.6	5.5	3	3.2	2.2	4	3.4	3.1	3.1	1.4
Italy	21.8	19.5	16.5	14.7	10.7	9.2	5.8	4.7	5.1	6.3	6.1	6.2	5	4.5
Luxembourg	6.3	8.1	9.4	8.7	5.6	2.5	0.3	-0.1	1.4	3.4	3.7	3.1	3.2	3.6
Netherlands	6.5	6.8	5.9	2.9	3.4	2.3	0	-1	0.5	1.1	2.5	3.1	3.2	2.6
Portugal	5.9	20	22.7	25.1	29.3	19.3	11.7	9.4	9.6	12.6	14.4	11.4	8.9	5.9
Spain	15.6	14.5	14.4	12.2	11.3	8.8	8.8	5.2	4.8	6.8	6.7	5.9	7.1	4.9
Sweden	17.5	12.1	8.6	8.9	8	7.4	4.2	4.2	5.8	6.4	10.5	9.3	2.3	4.6
United Kingdom	16.8	12.2	8.5	5.2	4.4	5.2	3.6	4.1	4.6	5.2	7	7.4	4.3	2.5

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Austria	2.7	1.6	1.8	1.2	0.8	0.5	2	2.3	1.7	1.3	2	2.1	1.7
Belgium	2.4	1.4	1.8	1.5	0.9	1.1	2.7	2.4	1.6	1.5	1.9	2.5	2.3
Denmark	2	2.1	2.1	2.2	1.8	2.5	2.9	2.4	2.4	2.1	1.2	1.8	1.9
Finland	1.1	1	1.1	1.2	1.4	1.3	3	2.7	2	1.3	0.1	0.8	1.3
France	1.7	1.8	2.1	1.3	0.7	0.6	1.8	1.8	1.9	2.2	2.3	1.9	1.9
Germany	2.7	1.7	1.2	1.5	0.6	0.6	1.4	1.9	1.4	1	1.8	1.9	1.8
Greece	10.9	2.7	7.8	3.7	4.5	2.1	2.9	3.7	3.9	3.4	3	3.5	3.3
Ireland	2.4	2.5	2.2	1.2	2.2	2.5	5.2	4	4.7	4	2.3	2.2	2.7
Italy	4.2	5.4	4	1.9	2	1.7	2.6	2.3	2.6	2.8	2.3	2.2	2.2
Luxembourg	2.2	1.9	1.4	1.4	1	1	3.2	2.7	2.1	2	2.2	2.5	2.7
Netherlands	2.7	2	1.4	1.9	1.8	2	2.3	5.1	3.9	2.2	1.4	1.5	1.7
Portugal	5	4	2.9	1.9	2.2	2.2	2.8	4.4	3.7	3.3	2.5	2.1	3.1
Spain	4.6	4.6	3.6	1.9	1.8	2.2	3.5	2.8	3.6	3.1	3.1	3.4	3.6
Sweden	2.2	2.6	1	1.8	1	0.5	1.3	2.7	1.9	2.3	1	0.8	1.5
United Kingdom	2.1	2.6	2.4	1.8	1.6	1.3	0.9	1.2	1.3	1.4	1.3	2	2.3

Source: International Monetary Fund *World Economic Outlook 2007*.

SOCIO-ECONOMIC DIFFERENTIATION OF POLISH REGIONS

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Key words: regional differentiation, Polish regions, socio-economic cohesion, Polish voivodeships, regional policy, rankings, ranking of European regions, competitiveness of Polish regions, median, coefficient of variation.

Abstract

The publication's objective is presentation of the interregional differentiation among the Polish voivodeships. On the basis of the statistical measures applied – mainly, coefficient of variation and the median – author attempts to present the regional differentiation of the Polish voivodeships and to evaluate which voivodeships manage to improve their competitive position and which ones face its deterioration. However, the changes in the statistical indicators are not sizeable, which on one hand attests to the durability of the said differences, while at the same time calls for cautious formulation of decisive opinions about the effectiveness of regional development policy. Simultaneously, author points out that the period 2000–2004 has resulted in significant deterioration of the Polish regions; competitiveness vis-à-vis many EU regions.

SPOŁECZNO-GOSPODARCZE ZRÓŻNICOWANIE POLSKICH REGIONÓW

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Słowa kluczowe: zróżnicowanie regionalne, spójność społeczno-gospodarcza, polskie regiony, polskie województwa, polityka regionalna, ranking regionów europejskich, konkurencyjność polskich regionów, mediana, współczynnik zmienności.

A b s t r a k t

Celem artykułu jest analiza społeczno-gospodarcza spójności Polski z krajami Unii Europejskiej w ujęciu regionalnym. Wykorzystując miary statystyczne, przede wszystkim współczynnik zmienności i medianę, próbowano odpowiedzieć na pytanie, jak się kształtują różnice społeczno-gospodarcze między regionami Polski. Zmiany wskaźników statystycznych nie są duże, co z jednej strony potwierdza trwałość zróżnicowań, z drugiej zaś nakazuje dużą ostrożność w formułowaniu wniosków dotyczących np. skuteczności polityki rozwoju regionalnego. W latach 2000–2004 spadła konkurencyjność regionów Polski w stosunku do wielu regionów innych krajów Unii Europejskiej.

Research problem, hypothesis

The publication's objective is presentation of interregional differentiations among the Polish voivodeships. The research hypothesis of the paper is a statement that in years 2000–2004 there was a change in the process of deepening of regional differentiations of 16 voivodeships, however the appearing changes, despite a high tempo of the country's development are not significant.

In order to solve the hypothesis there were put three research questions:

1) Do GDP indicators per capita reveal an increase of differentiations at the level of NUTS 2 and NUTS 3 or not?

2) What is the competitive position of subregions of the five poorest voivodeships?

3) How are the biggest Polish cities changing?

For calculations there was used a statistical packet Statistica PL. 8. In the analysed period 2000–2004, for which statistical data is available, one could observe a reduction of differentiations both in the scale of all units type NUTS 2 as well as among big cities and in relation town- village.

Introduction

In this article a region means NUTS (abbrev. from French *Nomenclature des Unites Territoriales Statistique*, English *Nomenclature of Units for Territorial Statistics*), that is, a standard of geocoding which was developed in the European Union for the needs of identification of statistical territorial units. The NUTS classification has been in the Community law since 1988, however not earlier than 2003 there appeared Decree of the European Parliament and Council about the NUTS classification. The basic objective of the NUTS classification is to solve the problem of variety of administrative divisions of the EU countries and inevitable changes of these divisions, which endangers the access and comparison of statistic data in space and time. The NUTS division does not always reflect the administrative division of the country. On the NUTS 2 level problem areas of the low level of development are supported.

Poland which is divided into sixteen voivodeships simultaneously consists of sixteen NUTS-2 territorial units. To evaluate interregional differentiations, the rankings of four indicators have been used: GDP per capita, employment indicator, proportion of the employed to the unemployed and gross value added per one employed person (*Zbiór aktów prawnych WE*, 2006, pp. 5–13).

In the preaccession period it was known that succession of new member states (the enlargement to 25 countries) will cause a statistical effect, that is, a decrease of the average for “new EU”. The same effect took place again in 2007 after the succession of Romania and Bulgaria. However, the NUTS-2 comparison in years 2000–2004, on the assumption that EU includes 27 member states, allows to catch relative moves among the regions.

Interregional differentiations – Polish voivodeships in the ranking of European regions

In the ranking of GDP according to PPP (parity of purchasing power) per capita, Polish regions took in 2000 places from 198 (Mazowieckie) to 256 (Podkarpackie). It is worth saying that the second by rotation Polish voivodeship (Śląskie) took a place of 230. Next voivodeships from a place of 232 (Wielkopolskie) to a place of 243 (Opolskie) constitute quite a compact group. It is separated only by one Hungarian and one Slovak regions and Estonia (the whole country is NUTS-2 because of its small size). And the poorest Polish voivodeships (Eastern Poland) took places from 247 (Warmińsko-Mazurskie) to the earlier mentioned Podkarpackie. Among the voivodeships of Eastern Poland are 5 units from other countries (one Slovak, two Hungarian, one Bulgarian and Latvia- the whole country is NUTS-2 because of its small size).

In the period 2000–2004 there were noted the most important changes as follows:

a) four Polish voivodeships moved higher in regard of GDP according to PPP and Mazowsze moved higher than other regions (4 positions), and Śląskie, Podkarpackie and Wielkopolskie moved one – two places higher. One cannot omit those regions which changed most in the mentioned period. They are: Bratislavsky Kraj (Slovak region), a rise of 63 places from 102 to 39; Greek region Attiki (a rise of 58 places from 135 to 77), East Anglia (a rise of 40 places from 117 to 73). The rest 19 UE regions which improved their positions in the ranking by moving at least 20 places, rose from low places to a place of 55 at most in 2004. Among the spectacular rises is the region of Praha (a rise of 19 places to position nr 12 in 2004) and Gloucestershire, Wiltshire and North Somerset regions (South- Western Britain which moved higher from 38 to 20 position). The above changes confirm a quite stable situation in the group of the strongest regions in EU;

b) the rest voivodeships, apart from Łódzkie, which did not change its position, moved lower in the ranking. The biggest drop in regard to GDP per capita took place in Kujawsko-Pomorskie and Małopolskie Voivodeships (of 8 and 7 places respectively). In years 2000–2004 26 EU regions totally dropped their positions at least 20 places down, which shows GDP per capita, and a record-holder is Italian Abruzzo (52 places down) and Umbria (51 places down). Among the mentioned 26 regions only 3 regions were in 2000 in the first “50” regions (places 22,36 and 37).

It should be emphasized that changes of the positions of the Polish voivodeships taking percentage of the employed into account are absolutely highest among all analysed variables and in 2000–2004 years they were of a negative character. In 2004 the highest positions among the described 254 NUTS2 belonged to Lubelskie, Podlaskie, Mazowieckie and Małopolskie Voivodeships (the end of the second hundred). Simultaneously Śląskie, Dolnośląskie, Zachodniopomorskie and Warmińsko-Mazurskie took positions from 240 to 244 (in the worse situation were only 6 regions in Southern Italy, two Hungarian regions and one region in France and one in Greece). In the analysed period only Lubuskie Voivodeship rose its position in the ranking, but drops in cases of Małopolskie, Mazowieckie, Wielkopolskie, Podlaskie and Świętokrzyskie belong to the biggest ones in EU.

In years 2000–2004 the positions of almost all Polish regions (except Warmińsko-Mazurskie and Lubuskie) lowered in the ranking. The biggest drops had Małopolskie and Wielkopolskie Voivodeships. Changes which appeared in the mentioned period caused that Polish regions took ones of the lowest positions in the ranking in regard to all four categories which were evaluated (compare Table 1).

To sum up, in years 2000–2004 the position of Polish voivodeships lowered but only the position of Lubuskie dropped significantly (20 places down) and only Lubelskie did not changed its position.

Dynamics of changes in relation to median

A rise or drop on the list of the analysed regions depends largely not only on the change of the value but also on the potential of the neighbouring regions in the ranking. This is why a slightly different situation in comparison with the one presented earlier we can observe in the case of changes of the place of each region in relation to median (Table 2).

The most important changes are:

a) improvement of the situation in Śląskie Voivodeship which although in years 2000–2004 rose only 2 places in the GDP ranking according to PPP but it improved its position in relation to median at most;

Table 1

Polish voivodeships in the ranking of NUTS2 in comparison to EU countries

Voivodeships	GDP PPP ¹		Employment indicator ²		The Employed/Unemployed ³		Gross value added per one employed person ⁴	
	position 2004	change of position 2000–2004	position 2005	change of position 2000–2005	position 2005	change of position 2000–2005	position 2004	change of position 2000–2004
Dolnośląskie	235	-2	241	-23	250	-9	207	-9
Kujawsko-pomorskie	245	-8	223	-15	243	-10	222	-8
Lubelskie	258	-3	175	-30	216	-8	233	0
Lubuskie	244	-5	225	+5	239	0	224	-20
Łódzkie	240	0	215	-32	231	-7	228	-7
Małopolskie	248	-7	199	-63	222	-34	227	-8
Mazowieckie	194	+4	193	-53	220	-5	198	-1
Opolskie	247	-4	220	-28	228	-11	216	-1
Podkarpackie	257	+1	217	-38	227	-8	232	-7
Podlaskie	255	-4	186	-43	217	-2	229	-3
Pomorskie	237	-2	230	-25	236	-10	205	-5
Śląskie	228	+2	240	-6	238	-7	201	-6
Świętokrzyskie	253	-5	227	-42	237	-19	230	-2
Warmińsko-Mazurskie	252	-5	244	-12	244	+1	225	-9
Wielkopolskie	231	+1	203	-51	229	-28	212	-6
Zachodnio-pomorskie	239	-5	242	-27	249	-14	213	-11

¹ ranking based on data for 268 units NUTS2.

² ranking based on data for 254 units NUTS2 (without 5 Bulgarian units, 5 German and 4 French units).

³ ranking based on data for 251 units NUTS2 (without 5 Bulgarian units, 2 Portugal, 5 German, 4 French and one Finnish units).

⁴ ranking based on data for 255 units NUTS2 (without 13 Greek units).

Source: Own study on the base of Eurostat data with the use of the statistical packet Statistica PL. 8.

b) voivodeships: Łódzkie, Mazowieckie, Opolskie and Wielkopolskie improved their situations. It is worth mentioning here that Opolskie Voivodeship moved quite significantly and it dropped in the previous ranking 4 places down. This shows a high competition of the regions whose positions are close to Opolszczyzna;

c) all regions of Eastern Poland improved their situations in the analysed period in relation to median but it is definitely smaller than in the case of the voivodeships listed above;

Table 2

Polish voivodeships in relation to median for NUTS2 in the EU

Voivodeships	GDP PPP ¹		Employment indicator ²		The Employed/ /Unemployed ³		Gross value added per one employed person ⁴	
	% of median 2004	change in relation to median (2005-2000)	% of median 2005	change in relation to median (2005-2000)	% of median 2005	change in relation to median (2005-2000)	% of median 2004	change in relation to median (2005-2000)
Dolnośląskie	52.60	.50	80.38	-8.66	28.46	-.49	30.90	1.76
Kujawsko- pomorskie	46.18	.31	85.36	-7.51	34.00	-2.25	24.05	1.26
Lubelskie	35.82	.72	93.01	-8.49	50.51	2.86	16.84	.71
Lubuskie	46.22	1.07	85.17	-0.66	35.64	5.60	23.79	-1.86
Łódzkie	47.57	2.45	87.46	-9.02	40.14	.78	21.63	1.81
Małopolskie	44.14	.50	90.72	-11.79	46.79	-12.50	22.85	2.17
Mazowieckie	78.21	2.46	91.48	-10.63	48.57	-3.26	39.42	2.65
Opolskie	44.39	2.07	85.55	-9.93	41.38	-1.39	27.90	5.41
Podkarpackie	36.05	1.08	86.51	-10.58	42.14	.47	19.81	.70
Podlaskie	38.57	.84	91.87	-9.84	50.10	6.40	21.22	2.40
Pomorskie	50.45	.63	83.25	-10.01	36.07	-3.16	31.30	1.23
Śląskie	58.03	4.02	80.96	-3.67	35.93	-1.11	32.39	-4.68
Świętokrzyskie	39.96	1.11	84.21	-12.07	36.02	-6.20	20.65	2.46
Warmińsko- Mazurskie	40.09	.83	79.62	-6.21	32.87	7.46	23.62	1.67
Wielkopolskie	55.51	2.14	90.33	-10.37	40.67	-8.93	28.69	3.95
Zachodnio- pomorskie	48.04	-2.95	80.19	-10.06	28.73	-4.39	28.65	-.32

¹ ranking based on data for 268 units NUTS2.

² ranking based on data for 254 units NUTS2 (without 5 Bulgarian units, 5 German and 4 French units).

³ ranking based on data for 251 units NUTS2 (without 5 Bulgarian units, 2 Portugal, 5 German, 4 French and one Finnish units).

⁴ ranking based on data for 255 units NUTS2 (without 13 Greek units).

Source: Own study on the base of Eurostat data with the use of the statistical packet Statistica PL. 8.

d) the only voivodeship which worsened its position in relation to median is Zachodniopomorskie, which at the same time dropped 5 places down in the GDP ranking according to PPP.

The presented in Table 2 displacements in relation to median are at the average level. Record-holders in the EU in improving their positions in relation to median (over 21 percentage points) are the Czech Praha and Bratislavsky Kraj. In the group of the next 10 regions which moved at least 10 percentage points are two Romanian NUTS, two British NUTS, one NUTS from Bulgaria,

Hungary, Greece, and Latvia, Estonia and Luxembourg (taken as one NUTS because of their small areas).

In 2005 none of Polish voivodeships was higher than median for all NUTS2 in the EU. The closest to this value were voivodeships: Lubelskie, Podlaskie and Mazowieckie (about 90–93% of median). However, this level was achieved only because of the worsened competitive position, and in the case of voivodeships such as Małopolskie, Świętokrzyskie, Wielkopolskie, and Zachodniopomorskie one can say about a considerable drop. In voivodeships like: Świętokrzyskie, Małopolskie, Mazowieckie, Wielkopolskie, Zachodniopomorskie and Pomorskie there was a deterioration of their positions in relation to median about at least 10 percentage points. This means that in 2000 voivodeships such as: Mazowieckie, Małopolskie, Podlaskie, Wielkopolskie were placed above the middle value for the ranking (like Lubelskie which had a slightly smaller deterioration of its position, but in 2005 it was below median).

In the period 2000–2004 one can observe that six Polish voivodeships improved their position in relation to median (Warmińsko-Mazurskie, Podlaskie, Lubuskie, Lubelskie, Łódzkie and Podkarpackie), however, only Lubuskie, Podkarpackie and Warmińsko-Mazurskie show an improvement of the said indicator. It can be assumed that a relative improvement of the region in relation to median took place in several cases not as a result of an increase of indicators but as a result of a decrease of the median value for all European regions.

Two voivodeships which definitely lost most (in relation to median) are Małopolskie and Wielkopolskie which simultaneously dropped significantly in the ranking.

In 2004 Mazowieckie Voivodeship came the closest to the middle value (almost 40% of median), slightly worse were such voivodeships as: Śląskie, Pomorskie and Dolnośląskie. The worst outcomes belong to voivodeships in Eastern Poland which in the previous rankings about employment went relatively well (Lubelskie and Podkarpackie).

Apart from that the essential fact is that only three regions made their positions worse in relation to median, including Śląskie Voivodeship, and the rest voivodeships show an improvement of their positions.

Dynamics of regional differentiations

In the evaluation of regional differentiations in the EU it was assumed that the basic indicator of the level of socio-economic development would be GDP PPP per capita and the main measure would be coefficient of variation.

Table 3

Evaluation of regional differentiations in the EU on the level of NUTS 2

Indicator	2000	2004
Coefficient of variation (GDP PPP in %)	40.8	39.1
Coefficient of variation (Employment indicator in %)	14.0	12.6
Coefficient of variation (Employed/unemployed in %)	63.1	52.7
Coefficient of variation (Gross value added per one employed person in %)	49.1	47.5
Max/Min (GDP PPP in %)	15.8	12.8
Max/Min (Employment indicator in%)	2.6	2.0
Max/Min (Employed/unemployed in %)	16.5	11.3
Max/Min (Gross value added per one employed person in %)	56.4	37.5
Mean value 20 Max/ Mean value 20 Min (GDP PPP in %)	6.2	5.3
Mean value 20 Max/ Mean value 20 Min (Employment indicator in %)	1.7	1.6
Mean value 20 Max/ Mean value 20 Min (Employed/unemployed in%)	10.1	7.2
Mean value 20 Max/ Mean value 20 Min (Gross value added per one employed person in%)	12.1	9.7
Mean value 20 Max as % of median (GDP PPP)	182.1	180.2
Mean value 20 Max as % of median (Employment indicator)	130.5	122.4
Mean value 20 Max as % of median (Employed/Unemployed)	288.6	244.2
Mean value 20 Max as % of median (Gross value added per one employed person)	168.8	175.0
Mean value 20 Min as % of median (GDP PPP)	29.6	34.1
Mean value 20 Min as % of median (Employment indicator)	76.3	77.0
Mean value 20 Min as % of median (Employed/unemployed)	28.7	33.8
Mean value 20 Min as % of median (Gross value added per one employed person)	14.0	18.0

Source: Own study on the base of Eurostat data with the use of the statistical packet Statistica PL. 8.

On the base of the presented in the table values of the coefficient of variation one can say about the following changes which took place in units of NUTS 2 type:

- a) in years 2000–2004 there was a slight reduction of regional differentiations measured with GDP per capita according to parity of purchasing power;
- b) bigger changes, but also in the direction of minimizing of regional differences, were noted in other analysed indicators;
- c) generally we can say about a reduction of the disparity between the best and the worst regions in the EU both when we analyse two marginal regions and groups of 20 best and 20 worst regions. Particularly big changes take place in productivity measured with gross value added per one employed person;
- d) changes of the position of 20 best and 20 worst regions in relation to median also allow to speak about the fact of approaching the average by the

two groups, and greater improvements in GDP are made by regions of a smaller economic potential;

e) definitely the biggest deterioration of the strong regions took place in the case of indicator of the employed per one unemployed person (a drop of over 40 percentage points in relation to median), but it should be emphasized that these regions still are at the level of 240% of median (a record-breaking difference in the analysed variables);

f) the only indicator which slightly differs from the described above changes in the positions of the said changes is gross value added per one employed person. 20 weaker regions in this respect moved towards median 4 percentage points, while 20 strongest regions achieved the value above median over 6 percentage points.

Regional differentiations at the country level

This part of the study relates to dynamics of intervoivodeship differentiations in Poland described in the previous parts of the study.

Comparing dynamics of interregional differentiations in Poland with the previous indicators one can notice important differences, which is presented in Table 4. Thus, for example, between 2000 and 2004 we can notice a drop of coefficient of variation of employment, proportion of the employed to the unemployed and gross value added per capita. Changes are not big and the time in which they occurred is not long too.

Changes of GDP per capita value in years 2000-2004 allow to speak about a slight increase of differentiations at the level of NUTS2. It is confirmed by the rise of coefficient of variation at the stable relation of maximum and minimum values and the improved position of the strongest region in relation to median. and no changes of the weakest region.

When comparing changes of employment indicator in the analysed period we can say about reducing of interregional differences. It should be remembered, however, that the situation in all regions worsened then. Thus, it can be thought that the improvement of indicators showing regional differentiations was more a result of a relatively bigger drop in the regions which are better in this respect, and a relatively small deterioration of the situation in weakest regions.

The outcomes concerning productivity differentiation are slightly different. They seem to minimize but at a slightly increasing range. Changes of the value of this indicator in years 2000–2004 indicate that the best region improved in relation to median and the weakest region made its position worse.

Table 4

Evaluation of intervoivodeship differentiations in Poland

Indicator	2000	2004
Coefficient of variation (GDP per capita in %)	21.5	21.9
Coefficient of variation (Employment in %)	6.5	5.2
Coefficient of variation (Employed/unemployed in %)	22.0	17.9
Coefficient of variation (Gross value added per one employed person in %)	25.9	22.5
Max/Min (GDP per capita in %)	2.17	2.18
Max/Min (Employment in %)	1.21	1.17
Max/Min (Employed/unemployed in %)	2.33	1.78
Max/Min (Gross value added per one employed person in %)	2.30	2.34
Max as % of median (GDP per capita)	167.8	169.3
Max as % of median (Employment in %)	106.9	108.8
Max as % of median (Employed/unemployed in %)	146.4	132.5
Max as % of median (Gross value added per one employed person)	163.8	164.8
Min as % of median (GDP per capita)	77.5	77.5
Min as % of median (Employment in %)	88.3	93.2
Min as % of median (Employed/unemployed in %)	62.7	74.6
Min as % of median (Gross value added per one employed person)	71.2	70.4

Source: Own study on the base of Eurostat data with the use of the statistical packet Statistica PL. 8.

The characteristics of changes is supplemented by data on differentiations at the NUTS3 level which point out a slightly different situation than the one described case above (compare Table 5). NUTS3 mean regions (a group of several poviats). Poland's territory consists of 45 subregions NUTS 3. The value of coefficient of variation for the years 2000 and 2004 indicates that regional differentiations at the NUTS 3 level in Poland decreased slightly. Also the proportion of the maximum value to the minimum value decreased slightly. Admittedly, both changes are very small but in comparison to the earlier calculations, this fact seems to be somewhat surprising. The explanation of this is a decrease of the relative position of the strongest region rather than a slightly better position of the weakest subregion in relation to median. In years 2000–2004 in Warsaw GDP per capita increased over 23% (23 position in the ranking of the growth), while in subregions: Rybnicko-Jastrzębskie and Ciechanowsko-Płockie an increase was almost 40%. Even some of the poorest subregions had a quicker increase than Warsaw (Nowosądecki, Chełmsko-Zamojski, Łomżyński).

Table 5

Evaluation of differentiations among subregions (NUTS 3) in Poland

Indicator	2000	2004
Coefficient of variation (GDP per capita in %)	42.9	42.1
Max/Min (GDP per capita)	4.89	4.84
Max as % of median (GDP per capita)	339.1	335.9
Min as % of median (GDP per capita)	69.2	69.4

Source: Own study on the base of Eurostat data with the use of the statistical packet Statistica PL. 8.

A completion of data on interregional differentiations in years 2000-2004 is evaluation of changes among big cities in Europe including Polish cities. On the base of available information a characterization of changes of the value of GDP PPP per capita in 20 selected big cities was done. In the analysis was used data concerning the following cities (NUTS 3 level): Vienna, Prague, Munich, Berlin, Hamburg, Barcelona, Madrid, Paris, Turin, Rome, Łódź, Warsaw, Cracow, Poznań, Wrocław, Trójmiasto, Stockholm, Bratislava, London Inner, Sofia. As one can notice an exception among the presented units is London for which average data on the NUTS 2 level was taken because division of this unit into smaller ones on the NUTS3 level would cause multiplication of differences and it would be necessary to analyse parts of the city, which had not been done with other big cities, for example Berlin.

In the group being described here, the highest value of the analysed indicator was achieved in 2004 by Paris, next was London, then but close were Munich, Hamburg and Vienna, and the list was closed by: Trójmiasto, Wrocław, Sofia and Łódź. The highest dynamics of changes in years 2000–2004 took place in Sofia (158%), then in Bratislava (138%), Prague (131%) and London (119%). Behind these four cities were three Polish cities (Poznań – 118%, Warsaw – 117% and Łódź – also 117%). The lowest dynamics was seen in Turin (102%), Berlin and Paris (106% each) and Rome, Munich and Stockholm (108% each).

In years 2000–2004 in the presented group of cities there was a decrease of differences in the GDP value, though it should be pointed out that the relation of the maximum value to the minimum value was still on the high level (compare Table 6). A decrease of the value of coefficient of variation and a reduction of the distance of the strongest region from median and an increase of the weakest city at the same time allow to assume that in big European cities there is a tendency to eliminate differences.

Table 6

Evaluation of differentiations in the group of 20 big European cities

Indicator	2000	2004
Coefficient of variation (GDP PPP)	52.9	50.1
Max/Min (GDP PPP)	7.42	5.18
Max as % of median (GDP per capita)	253.1	241.8
Min as % of median (GDP per capita)	34.1	46.7

Source: Own study on the base of Eurostat data with the use of the statistical packet Statistica PL. 8.

In this group Polish cities, as it was said above, took high positions with regard to dynamics of growth. However, when analysing the ranking of 20 cities in 2004, the highest 8 place belonged to Warsaw (after Prague). Poznań took 14 and Cracow 16 position, and further places belonged to Trójmiasto and Wrocław, and at the end was Łódź. In comparison to the year 2000 there were minor changes. Warsaw and Cracow managed to keep the same positions. Poznań and Trójmiasto rose one place, but Łódź and Wrocław fell one place.

The characteristics of the changes is completed by evaluation of the interregional differentiations between rural and urban areas. Firstly 15 cities were chosen from the previous analysis (without 5 which had the highest GDP value in 2004) and 15 units of NUTS 3 type characterized by density of population 60 people per km². The analysis used data of the following subregions: Etcki, Bialskopodlaski, Koszaliński, Słupski and Łomżyński- from Poland; Ostvorpommern from Germany; Belluno from Italy; Vienne from France; Lleida from Spain; Alentejo Central from Portugal; Osttirol from Austria; Powys from Great Britain; Varsinais-Suomi from Finland; Trikala from Greece and Caras-Severin from Romania.

It is worth saying that even regions of low density of population can be characterized by a high socio-economic potential. Although in the ranking of 30 selected NUTS 3 units the first four places with regard to the height of GDP per capita belong to urban areas, the 5 place already belongs to Belluno and 9 to Lleida. The list is closed by 7 subregions of low density of population, though Ostvorpommern's GDP per capita is only slightly lower than that of Łódź and Sofia.

The described group of regions reduced in years 2000–2004 internal differentiations (compare Table 7) which are smaller than in the case of the analysis of urban cities only, which is a result of excluding from the analysis the richest cities. It also proves that these cities influence statistics concerning regional differentiations most.

Table 7

Evaluation of differentiations in the group of urban and rural regions in Poland in comparison to the EU¹

Indicator	2000	2004
Coefficient of variation (GDP PPP)	48.0	45.6
Max/Min (GDP PPP)	7.99	5.50
Max as % of median (GDP per capita)	193.88	185.44
Min as % of median (GDP per capita)	24.26	33.74

¹ "rusticity" of the region was evaluated on the base of low density of population

Source: Own study on the base of Eurostat data with the use of the statistical packet Statistica PL. 8.

The relation of the best region to the weakest one definitely looked better. In the presented group the highest dynamics of growth is seen in the Romanian region of Caras-Severin (the poorest region in the analysed group) and a rise over 22% in the Łomżyńskie subregion gives it the 5 place in the ranking.

However, it should be emphasized that rural areas are characterized by diverse dynamics of growth. In two analysed regions (Belluno and Alentejo Central) there was a decrease of GDP per capita in years 2000-2004, and the first of them belonged to the richest among 30 presented regions, and the second to the poorest ones.

The important factor which influences the decreasing of differentiations is a change of the position in relation to median. Thus, the strongest region lost almost 9 percentage points in relation to median. These points moved to the poorest region. In 2000 the poorest region in the presented group was the Romanian region mentioned above. Four years later it was the Polish sub-region Bielsko-Podlaski which became the poorest as a result of the significant dynamics of growth in Caras-Severin.

Conclusions

Data about the GDP values in Poland requires a greater caution in formulating directions of change in the development of regions. It was probably for the first time that in the period of transformation there occurred a situation in which statistics about GDP per capita show the increasing of differentiations on the NUTS 2 level and they are practically unchanged on the NUTS 3 level. It should be taken into account that the described changes are very small and movements in relation to the average take place in the case of

the strongest region when the poorest region's position is stable. The slight reduction of differences on the NUTS 3 level at almost stable range shows that the final outcome is influenced first of all by data of regions whose values oscillated close to the average. This hypothesis seems to be confirmed by a very weak but negative correlation of GDP per capita values and the dynamics of GDP per capita growth in years 2000–2004. The regions of the biggest growth are regions which take places 9,10,24 and 27 in the ranking of 45 subregions in Poland.

On the basis of observation one can relate to the main dilemma about the regional development policy and the usage of different instruments in order to help the poorest regions.

According to the presented research hypothesis and the outcome of the carried out research it should be claimed that years 2000–2004 are the period in which there was a change of the direction of the increasing of regional differentiations at the level of 16 voivodeships. The changes which are taking place despite a high tempo of growth of the whole country and accepted methods of data comparison are quite small. Here is an open question about further years, when effects of the first years of Poland's membership in the EU will turn out.

Dynamics of changes of the subregions shows that Warsaw, for example, is developing less dynamically than Mazowsze, and Poznań has got lower dynamics than the whole Wielkopolska. Moreover, in the area of Mazowieckie voivodeship higher dynamics of growth than Warsaw has been achieved by three subregions, in Wielkopolska among others the Poznański subregion is developing quicker than Poznań, similarly the Wrocławski subregion shows greater dynamics than Wrocław. It is obvious that this state is influenced by the effect of statistical database but it is also clear that more and more visible are effects of the growth of competitiveness and economic potential of the regions neighbouring with the biggest agglomerations. In particular these areas dominate with regard to attractiveness, residence and investment attractiveness (free investment areas, lower costs, still good communication etc.). However, this does not mean that in a while big agglomerations will lose high positions since not all big cities seem to influence in the same way on the surroundings. For example, Gdański and Łódzki subregions take 36 and 32 positions respectively in the ranking of 45 subregions in the country.

Five voivodeships of Eastern Poland had in years 2000–2004 the GDP growth similar to Mazowsze and higher than in voivodeships: Pomorskie, Małopolskie and Dolnośląskie, which means that also in this part of the country there can be changes which dynamize the development. Subregions of these voivodeships have despite the high tempo of growth in some cases, big difficulties in improving their positions in relation to stronger regions. It is so

because of the still big distance separating them from the rest of the country. Experiences of the poorly populated regions of the EU show that they can be competitive and the potential counted with the GDP value per capita can be comparable to big cities. It is sure that one of the important factors which influence this state is high productivity which more and more often goes together with innovation. That is why it will be so important to use by Polish regions resources from structural funds first of all to develop the two dimensions of development independently from the existing economic structures in the region since high productivity and innovation can exist in each sector.

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**ROLE OF FOREIGN DIRECT INVESTMENTS
IN SHAPING LABOUR MARKET
IN WARMIA AND MAZURY VOIVODSHIP**

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Key words: foreign direct investment, labour market, multiplying effects.

Abstract

Foreign direct investment plays a significant role in shaping social-economic development of the host country and its particular regions by influencing whole economy, i.e. in the field of finances, technologies, competitiveness, employment and natural environment. Regionally, the crucial meaning has direct and indirect impact on labour market, which is even more extended by multiplying effects. Specific impact depends on many factors, i.e. ability of the region to adopt these effects by creating regional and local linkages, and strategies of enterprises with the share of foreign capital. These enterprises in Warmia and Mazury region are operating mainly in production and trade sections and can cooperate with many other units operating in the region. Positive impact is extended by export, but reduced by import. Among surveyed group of entrepreneurs, every fourth declared to export own products, and every third to import. Production companies took considerable part in regional export, but they also imported a lot, while trade companies contributed to the import increase by purchasing abroad commodities for sale.

**ROLA BEZPOŚREDNICH INWESTYCJI ZAGRANICZNYCH W KSZTAŁTOWANIU
RYNKU PRACY W WOJEWÓDZTWIE WARMIŃSKO-MAZURSKIM**

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Słowa kluczowe: bezpośrednie inwestycje zagraniczne, rynek pracy, efekty mnożnikowe.

A b s t r a k t

Bezpośrednie inwestycje zagraniczne odgrywają ważną rolę w kształtowaniu rozwoju społeczno-gospodarczego na poziomie kraju i poszczególnych regionów, wpływają na gospodarkę, np. w zakresie finansów, technologii, konkurencyjności, tworzenia powiązań i relacji z miejscowymi podmiotami, zatrudnienia czy środowiska naturalnego. W skali województwa decydujące znaczenie ma bezpośrednie i pośrednie oddziaływanie tychże inwestycji na rynek pracy, zwiększane przez efekty mnożnikowe. Wpływ ten zależy od wielu czynników, w tym zdolności regionu do przyswajania efektów mnożnikowych przez tworzenie regionalnych i lokalnych powiązań oraz strategii handlowej przedsiębiorstw z kapitałem zagranicznym. Przedsiębiorstwa zasilane przez kapitał zagraniczny w woj. warmińsko-mazurskim działają przede wszystkim w sekcji produkcyjnej i handlowej, w ramach których możliwe jest nawiązanie współpracy z wieloma innymi podmiotami gospodarczymi w regionie. Pozytywne oddziaływanie jest zwiększane przez eksport, a zredukowane przez import. Wśród badanej grupy przedsiębiorstw co czwarte eksportowało wyroby, a co trzecie importowało. Do wzrostu eksportu najbardziej przyczyniały się spółki produkcyjne, które jednocześnie najczęściej importowały, spółki handlowe natomiast przyczyniały się do wzrostu importu towarów przeznaczonych do sprzedaży.

Introduction and methodology

The social-economic development of each region, and following eligible changes in the labour market, depends mainly on the scale and type of investment made within. Foreign direct investment (FDI) can be a favourable solution for the lack of capital accumulated by local or national entrepreneurs. According to the UNCTAD definition, FDI is defined as investment involving long-term relationship and reflecting a lasting interest and control of resident entity in one economy (parent company) in an enterprise resident in an economy other than that of FDI investor (*World Investment Report... 1995*, p. 383).

World economists, such as K. Kojima and T. Ozawa, assume on the base of own empirical studies that FDI causes number of positive changes in the host country economy and supports its social-economic development (KOJIMA 2000, pp. 375–401, OZAWA 1992, pp. 27–54). According to the investment development path (IDP) theory formulated by John H. DUNNING (1995, pp. 1–12), the economic development of a given country is strictly related to foreign investments, i.e. the inflow and outflow of investment capital. The model country should undergo five development stages, related primarily to the tendency to be an importer and exporter of FDI. This tendency depends on the investor's ownership advantages, the localisation advantages of the host country as well as on the advantages that the investor will acquire through the business *internalisation* process. At stage 1, internal FDI are made on a small scale, since the country is missing localization advantages and the only incentive are natural resources, for example, raw materials (so-called "fruits of the earth")

as well as unqualified workforce. Internal investments increase along with GNP growth, which are not balanced with external investments due to sporadic ownership advantages of family businesses. Stage 2 begins with an increase in internal direct investments, resulting from a growing tendency on the market for foreign products' stage 3 is characterized by a gradual decrease in the growth rate of internal investments as well as by an increase in the growth rate of external investments. The economy reaches stage 4 when external investments exceed or equal internal investments and the growth rate of external investments exceeds that of internal investments. Stage 5 is characterized by the level of net external foreign direct investments fluctuating around zero. This is a scenario for industrially advanced nations. At this stage, companies globalize and their nationalities fade. Particular organizations act like mini-markets since they are based on a broad network of international agreements of cooperation. Stage 1 is typical of countries at a low level of economic development. Countries reach stage 2 and 3 as the GNP increases and the system changes. These stages are characteristic of countries in the transition phase. Stage 4 and 5 is achieved by highly developed economies, such as the United States and Japan (ŻRÓBEK et al. 2007, pp. 163–164).

FDI inflow shapes regional labour market; not only in the number of workplaces, but also in their quality. According to the relevant literature, FDI increases the regional employment directly by creating workplaces within the enterprise with foreign capital; or indirectly by stimulating the increase among collaborators (Fig. 1). This possibility does not mean that all companies gaining foreign capital will realise such employment increase. Indeed, acquired and restructured companies can sustain previous number of workers. In contrast, foreign investors through cost rationalization sometimes reduce employment. The same situation occurs when affiliate is closed down or competitors are being crowded out (*World Investment Report...* 1995, pp. 166–214). Not surprisingly, therefore, the presence of foreign capital raises the anxiety among workers and public opinion. Labour unions then demand the agreement on employing all workers of acquired company for indeterminate period (DZIEMIANOWICZ 1997, p. 136). Other significant contribution of FDI to labour market is introducing new quality by changes in wages, ways of human resource management, systems of motivations, standards or safety.

Concerns also arise about the impact of FDI on employment in other domestic firms, both collaborating and competing (*World Investment Report...* 1995, p. 166–214). Establishing, developing or reducing/closing activity leads to changes in income and employment in linked enterprises and is called “multiplying effect”. It can be of two types: deriving from enterprise's with foreign capital demand, which enables the development of local/regional suppliers of

goods and services; and from money earned by labourers and spent on goods and services provided by local/regional companies (*Dziesięć lat doświadczeń...* 2005, pp. 89–128). The researches conducted by Polish scientific units revealed that companies mainly seek for service suppliers in the same region, then country, and at last abroad. At the same time, resources of products and merchandises can be more diversified, and multiplying effects decrease with increasing marginal tendency to import. Nevertheless, there are signs that export orientation favours enterprise's development and increase its tendency to creating local/regional/national cooperation networks. According to J. WITKOWSKA (2000, pp. 652–656), real impact of FDI depends on strategies chosen by corporations: where they seek for suppliers and buyers, do they compete or collaborate with other local/regional business units.

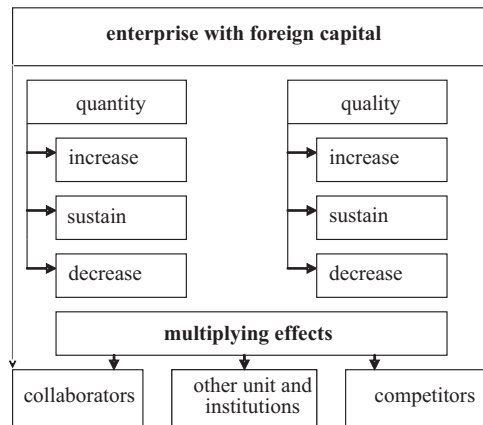


Fig. 1. Impact of the enterprise with the share of foreign capital on labour market in host country
Source: Own studies.

What determines whether or not FDI influence positively host country's labour market are mainly: the intensity of competition or collaboration, linkages between foreign affiliates and domestic suppliers and buyers, the type of activity, size and characteristics of company. Adopting positive effects requires abilities of local business units, what depends on the level of development and economy structure and also local authorities activities (*Dziesięć lat doświadczeń...* 2005, pp. 89–128). Although some evidence can be noticed that FDI also does provide some transfer of skills, expertise and knowledge, data on overall extent of such effects are scarce.

Warmia and Mazury voivodship is considered to be one of the less developed regions in Poland, characterised by various social and economical problems,

i.e. permanent structural unemployment. Nevertheless, strengths of this region include presence of large domestic and foreign companies, and chances – economic development through increase of investment attractiveness and export competitiveness (*Konkurencyjność Warmii i Mazur...* 2005).

The aim of this article is to present potential influence of FDI on labour market of Warmia and Mazury voivodship, including multiplying effects and the role of supply-trade politics of the companies with the share of foreign capital. To reach this aim following method was applied: sectoral analysis of companies with the share of foreign capital¹ operating in the voivodship and valuation of potential linkages. Moreover, some information on trade orientation declared by the group of these companies in not published declarations fulfilled for Statistic Office was analysed.

Potential influence of FDI on labour market of Warmia and Mazury voivodship – results

FDI does not mean only flow of capital, but also other production agents, such as technologies, management and marketing skills. It can be assumed that whole production set is being transferred, and capital *sensu stricte* is only crucial part (CYRSON 1981, p. 157).

Foreign capital in the form of FDI is considered to be relatively the most advantageous and safe form of foreign investment in host country because of its long-term perspective, stability, and rather mild reactions on short-term fluctuations on international finance markets (SZCZEPAŃSKA, TYMOCZKO 2005, p. 5). Moreover, “sunk costs” lead to difficulties in irreversibility of such investment (KARASZEWSKI 2004, p. 22).

Attracting foreign capital is often accompanied by expectations for regional development. W. KARASZEWSKI (2004, p. 22) named, among others, following anticipated effects: domestic capital stock supplementation, economy modernization and spill-over of modern solutions, improvement of export competitiveness, and decline in unemployment (direct and indirect impact on quantity, quality and localization). At the same time he underlined some concerns related to investment, such as production assets exploitation, crowding out domestic companies by strong competition, substitution of national production and import.

In 2006, almost 110 000 business units were operating in Warmia and Mazury region, and they consist of individual economic activities (75%), partnerships (11%) and other legal forms (*Zmiany strukturalne...* 2006). Some

¹ Registered in regional register REGON, June 2006.

of them had the share of foreign capital. First company with the share of foreign capital was registered in 1982. The number of companies with the share of foreign capital was slowly increasing during next seven years, and with the beginning of transition in Poland started rising systematically (Fig. 2.).

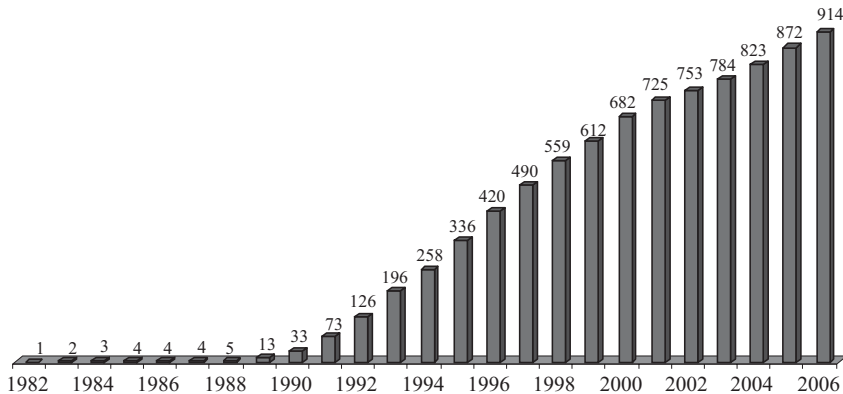


Fig. 2. Number of companies with the share of foreign capital registered in Warmia and Mazury voivodship in 1982-2006

Source: Own studies based on data from REGON.

The majority of companies were employing less than 10 workers (78%), and companies employing over 50 workers made only 8%. Every third company with the share of foreign capital was operating in the section “D” of Polish Activity Classification (PKD) called “wholesale and retail trade repairs of automotive vehicles, motorcycles and articles of personal and household use”, among which 70% were aggregated in wholesale trade. Companies from this section have considerable impact on labour market: contracts with local producers increase their incomes and motivate to employ new workers. But, if foreign affiliates purchase goods and services produced abroad, they can even decrease local producers’ incomes and force them to cut down on production costs, for instance by employment reduction.

Processing industry (section D), with 28% companies with the share of foreign capital operating, was second important PKD section. In this branch, the majority consists of producers of food, wood and wooden products, furniture and metal products. This section can also create many local and regional linkages if producers choose local suppliers and buyers (Tab. 1). Analogically to trade section, decision on purchasing materials and components on local/regional/host country’s market leads to multiplying effects.

Significantly smaller number of investors (less than 10%) chose other sectors of business activity, such as agriculture, business services, hotels and restaurants or construction. Considered as a group of small importance they were purposefully omitted in this paper.

Aggregation of foreign investors in production and trade sector is quite convergent with economic characteristic of Warmia and Mazury voivodship. According to GUS, in 2007 over half employees (57%) in the region was working in processing industry, and 20% in trade and repairs. Less than 10% workers were employed in construction and business services, while the share of hotels and restaurants and other sections was marginal.

Table 1
Potential regional and local linkages of companies from section D

Section D	Share (%)	Potential goods and services suppliers	Potential buyers
Food and beverages	19	agriculture and hunting, food and beverages, machinery, recycling, energy, water and gas, repairs, transport, finances and insurance, waste, other	food and beverages, wholesale and retail trade, hotels and restaurants
Wood and wooden products	15	forestry, wood and wooden products machinery, recycling, energy, water and gas, repairs, transport, finances and insurance, waste, other	furniture, wholesale and retail trade, construction
Furniture and other	12	wood and wooden products, textile, metal, synthetic, machinery, recycling, energy, water and gas, repairs, transport, finances and insurance, waste, other	wholesale and retail trade

Source: Own studies.

It should be taken into consideration that many companies with the share of foreign capital participate in international networks, what means international scale of linkages. Although introducing foreign capital to the enterprise can result in replacing local suppliers with import and have negative impact on local labour market by decreasing internal demand, operating within international network increases export ability and enables bigger scale of production with more workers.

According to surveys conducted periodically by Statistic Office in Olsztyn over the sample of companies with foreign capital, in 2004 every third company imported, every fourth one exported products, every sixth one exported commodities or materials, and every tenth one exported services (Tab. 2).

Interesting information can be drawn with sections D and G – there is a high sectoral concentration of export production. Almost 70% production companies, while only 6% trade companies exported products for sale. Every

fourth production and trade enterprise exported commodities and materials, considerably less number exported services. Due to value: 99% of export was done by production companies, among which 23% were exported to mother company. While taking into consideration export of commodities and materials, significant share of trade companies can be noticed, however, it is still under the level of production companies (Tab. 2).

Table 2

Share of section D and G in international trade

Export	% total	Share of section D	Share of section G
Products	100.0	99.0	0.3
to mother company	23.4	23.0	0.0
Commodities and materials	100.0	64.8	34.1
to mother company	11.6	17.2	x
Services	100.0	91.1	1.5
to mother company	24.1	x	x
Import			
Total	100.0	84.3	14.7
Resources, materials and semi finished goods for production	68.5	80.5	1.3
Commodities for sale	24.7	11.6	97.5
From mother company or dependent units	21.0	20.5	x

x – Secrecy of statistics.

Source: own studies based on data from Statistic Office.

Data presented in Table 2 can give a rough idea about the extent and sectoral pattern of import in 2004. Every third surveyed company imported, and the majority of them were operating in production section. More than half of surveyed enterprises did not purchase goods from potential suppliers from Warmia and Mazury, but abroad, including mother company and dependent units. This supply strategy does not increase number of workplaces in the region because regional demand is not generated. Leading importers came from section D (84.3%). Taking into consideration all importers, almost 70% spent their money abroad on resources, materials and semi finished products, and almost 25% on commodities for trade. Almost half of trade and repairs companies imported, mainly commodities for sale.

Summary

Foreign direct investment results in establishing new enterprises or reinforces already existing with capital by acquiring shares² and creates or reduces workplaces. Apart from number, foreign capital inflow influences the quality of workplaces. According to literature, FDI has direct impact on employment in the company or indirect while changing number and quality of employment among collaborators.

Indirect impact is related to multiplying effects. Supply effects depend on abilities of local companies to fulfil the demand of companies with the share of foreign capital and tendency to import. The largest group of FDI in Warmia and Mazury voivodship was operating in trade and production section. These sections usually create many linkages with suppliers and buyers operating in the region. However, in the sample separated by Statistic Office, every third company, mainly from production sector, decided on import. Thus, companies operating in the sector able to acquire in the region, decided to import resources, materials and semi finished goods for production purposes. Every third company imported commodities for trade. But, every fourth company with the share of foreign capital exported owns products, every sixth exported commodities or materials, and every tenth exported services. It should be noticed, that such acquisition strategy (high tendency to import and low to create regional and local linkages) did not contributed to the increase of workplaces in the region or have negative indirect impact on labour market. On the other hand, companies with the share of foreign capital contributed to export increase, which could be accompanied by increase of number of workplaces.

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² According to National Bank of Poland foreign investor needs to own more than 10% shares in Polish company to be classified as FDI.

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**LOCAL COLLABORATION BETWEEN
MUNICIPALITIES AND COUNTIES OF WARMIA
AND MAZURY VOIVODSHIP AND KALININGRAD
OBLAST OF THE RUSSIAN FEDERATION**

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Key words: foreign collaboration, local collaboration, collaboration with the Kaliningrad Oblast of the Russian Federation.

A b s t r a c t

The paper presents the diagnosis of foreign collaboration of Warmia and Mazury voivodship with the Kaliningrad Oblast of the Russian Federation. The studies were carried out during the period of April–June 2006. During the period covered, 40% of municipalities and over 70% of counties had collaboration with foreign partners established. The estimates showed that only 33% of municipalities and 66% of counties were involved in active collaboration with the Kaliningrad Oblast of the Russian Federation. The municipalities and counties noticed the benefits of collaboration, in the order of priority, in the areas of: culture, tourism, education, economy, border crossings, environment protection and territorial government. The administrative units mentioned also supported local entrepreneurs (organized exhibitions, joint trips) and diverse entities (schools, museums, houses of culture) searching for opportunities of collaboration with the Oblast. Initiatives concerning joint preparation of projects involving the use of European Union funds were also supported.

**LOKALNA WSPÓŁPRACA GMIN I POWIATÓW
WOJEWÓDZTWA WARMIŃSKO-MAZURSKIEGO Z OBWODEM KALININGRADZKIM
FEDERACJI ROSYJSKIEJ**

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Słowa kluczowe: współpraca zagraniczna, współpraca lokalna, współpraca z Obwodem Kaliningradzkim FR.

A b s t r a k t

W artykule przedstawiono diagnozę współpracy woj. warmińsko-mazurskiego z Obwodem Kaliningradzkim Federacji Rosyjskiej (FR). Badania przeprowadzono od kwietnia do czerwca 2006 r. W analizowanym okresie 40% gmin oraz ponad 70% powiatów nawiązało współpracę z partnerami zagranicznymi, lecz tylko 33% gmin oraz 66% powiatów aktywnie współpracowało z Obwodem Kaliningradzkim FR. Gminy i powiaty dostrzegały korzyści ze współpracy w sferach: kultury, turystyki, oświaty, gospodarki, przejść granicznych, ochrony środowiska, samorządu terytorialnego. Wspierano również miejscowych przedsiębiorców (organizowano targi, wspólne wyjazdy), różnorodne podmioty (szkoły, muzea, domy kultury) poszukujące współpracy z Obwodem Kaliningradzkim oraz podejmujące inicjatywy dotyczące wspólnego przygotowywania projektów związanych z wykorzystaniem środków unijnych.

Introduction

Currently, foreign collaboration is an important element of economic integration. It is, among others, the tool for obtaining and exchange of information. It also secures the flow of experience and facilitates development of tourism. It leads to cultural and educational development of the region and is a tool of promotion. The above-listed functions fulfilled by foreign collaboration result also in its contribution to the economic development of the region.

As a consequence, foreign collaboration can be treated as a measure of situation in international relations, both political and economic, and the indicator of the evolution in widely understood social-cultural area. For those reasons that collaboration deserves particular attention. This applies in particular to local collaboration, which is understood in this paper as all forms of crossborder contacts highlighting at the same time that "local" means territorially and institutionally limited coverage of the crossborder contacts as in this specific case it covered collaboration between Warmia and Mazury voivodship and the Kaliningrad Oblast of the Russian Federation.

Until the end of 1980s, because of political considerations, the scope of the collaboration was small. The Kaliningrad Oblast of the Russian Federation had the status of a special military zone and the closed character of the border made wider and unrestricted collaboration difficult. All the contacts were limited and formalized, conditioned by ideological factors. Only the transformations at the turn of 1980s and 1990s caused elimination of the rigors of closed area and increased interest in the Oblast, which was expressed, among others, in establishment of contacts by a variety of regional and local entities¹.

The Kaliningrad Oblast of the Russian Federation is an important area for Warmia and Mazury voivodship from geopolitical and geo-economic perspec-

¹ For example the Collaboration Agreement between the Voivod of Olsztyn and the head of the administration of the Kaliningrad Oblast of the Russian Federation.

tive. Mutual collaboration is becoming important in both bilateral and multi-lateral dimension considering the European and Euro-Atlantic integration processes.

Methodology of studies

The study assumed that as a consequence of common historical heritage as well as political and economic role, Warmia and Mazury voivodship and the Kaliningrad Oblast of the Russian Federation can implement active collaboration justified by geographic, economic, administrative and political considerations.

The paper aims at presenting the diagnosis of collaboration between Warmia and Mazury voivodship and the Kaliningrad Oblast of the Russian Federation with special focus on the scope, forms and development of the local collaboration of the voivodship with the Kaliningrad Oblast. An attempt was also made to identify the basic barriers hindering the collaboration.

Individual interviews represented the basic research method in data collection. The technique used was the in depth interview targeted at all mayors of the counties in the voivodship (mayors or their deputies), i.e. 21 entities: two cities with the status of a county (Olsztyn and Elbląg) and 19 counties as well as towns and municipalities – mayors and persons responsible for contacts with the Kaliningrad Oblast in 16 urban municipalities, 33 urban-rural municipalities and 67 rural municipalities. Entities that implement formal and informal collaboration were included among the entities covered. The interview questionnaire was the research tool applied.

Conditions of local collaboration based on the example of Warmia and Mazury voivodship and the Kaliningrad Oblast of the Russian Federation

The collaboration between Warmia and Mazury voivodship and the Kaliningrad Oblast of the Russian Federation is influenced by numerous important factors that, after SZUL (2001) can be divided into the following groups:

1. economic factors, concerning the level of development of both Warmia and Mazury voivodship and the Kaliningrad Oblast, including among others the differences in prices, wages, exchange rates and unemployment level;
2. political factors, influence of the general political atmosphere at the government level on Polish-Russian collaboration at the local level;

3. geographic factors, including e.g. border infrastructure, roads and first of all the capacity of border crossings on the Polish and the Russian side,

4. socio-cultural factors, that is the stereotypes and mutual reservations (ZABIELSKA, WALDZIŃSKI 2004);

5. institutional factors, mainly visa and customs regulations determining the status of the border and their influence on the intensity of Polish-Russian contacts, balance of competences of the regional authorities and local partners in collaboration².

The above factors determine the intensity, forms and relations between the participants in the collaboration.

Results of studies and discussion

Foreign collaboration of Warmia and Mazury voivodship, which is the continuation of the assumptions of the foreign policy of the State, represents a very important element if the social and economic development strategy of the voivodship. The directions determined in it had lead to specification of tasks and areas of collaboration. They include, first of all, creating favorable conditions for attracting foreign capital and activities supporting the increase of the role of the voivodship in the Baltic Sea area and in the regional international structures (*Resolution...* 2002). This is included in the *Priorities of foreign collaboration of the voivodship* taking into account the territorial and national specificity of the voivodship, the current experience in foreign collaboration of former voivodships (now included in Warmia and Mazury voivodship) and the available economic and cultural potential.

The initiatives of the voivodship aimed at collaboration with the Oblast are subject to periodic verification and complementing while maintaining the stability of general development goals (*Updated Strategy...* 2005). The major areas include (*Resolution...* 2002):

- modernization of technical and transport infrastructure,
- tourism oriented initiatives,
- support to non-government organizations,
- maintaining the links with Poles living abroad by the territorial government of the voivodship.

Adequate activities at the regional level aiming at establishing conditions for collaboration with the Oblast release initiatives of local governments to

² In foreign collaboration the governor as the head of the Oblast administration is the partner for the Polish voivod and the voivodship territorial government because his competences match those of the marshal and those of the voivod. Despite the special scope of authority the governor is highly dependent on the federal authorities. For example, he does not administer border crossings as Polish voivod, which is a certain limitation.

establish collaboration at the local scale. They are limited to establishment bilateral contacts between towns and municipalities as well as making agreements in various areas. In case of municipalities and counties of Warmia and Mazury voivodship the results of such initiatives are (ZABIELSKA, WOJARSKA 2006):

- signing long-term collaboration agreements by, among others, Olsztyn and Elbląg with Kaliningrad in areas such as economy and trade, culture and education;
- organization of the days of Russian towns, among others, Kaliningrad, Prawdińsk, Bagrationowsk, Żelaznodorożnyj, within the frameworks of which specific companies present their economic and trade capacities;
- making local agreements.

This is confirmed by studies showing that among all the units of territorial government in Warmia and Mazury voivodship, ca. 45% have foreign collaboration established meaning that 40% of municipalities and 95% of counties collaborate with foreign partners (Fig. 1).

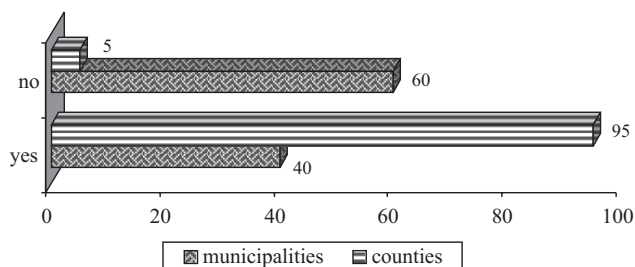


Fig. 1. Percentage of municipalities declaring established foreign collaboration
Source: Own work based on own studies.

Collaboration is more often declared by urban and urban-rural municipalities, which is presented in Figure 2.

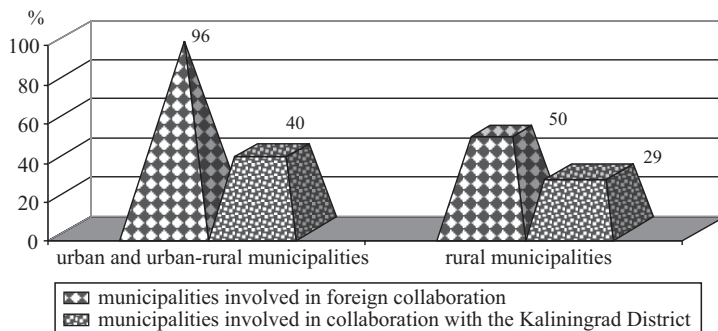


Fig. 2. Percentage of municipalities involved in foreign collaboration
Source: Own work based on own studies.

Estimates show that only 33% of all municipalities are involved in active collaboration with the Kaliningrad Oblast of the Russian Federation while 3% of them are located along the border. And for those municipalities situated near the border the collaboration with the Oblast is of key importance. The border municipalities share the opinion that the collaboration offers an opportunity for their development.

Municipalities initiating collaboration with a selected entity in the Kaliningrad Oblast base that collaboration on either formal or informal agreements³. Formal collaboration during the period covered was implemented by 23 municipality governments while the informal one was implemented in 7 municipalities.

In the Kaliningrad Oblast of the Russian Federation there are three types of territorial government units with which municipalities from Warmia and Mazury voivodship have established formal or informal collaboration:

- towns – Kaliningrad, Pioniersk, Sowietusk,
- urban circuits – Baltijsk, Swietłowski, Swietłogorsk,
- areas – Bagrationowski, Czerniachowski, Gusiew, Krasnoznamieński, Niemań, Niestierowski, Oziersk, Polessk, Prawdiński, Zielonograd.

The most active territorial entities on the Polish side were those of: Bartoszyce, Banie Maurskie, Braniewo, Górowo Iławeckie, Lidzbark Warmiński, as well as Gołdap, Kowale Oleckie, Olsztynek, Sępole and Wegorzewo.

On the basis of the studies it can be said that accession of Poland to the European Union had a favorable influence on the activity of municipalities in obtaining funds for development of crossborder collaboration with the Kaliningrad Oblast of the Russian Federation. According to over 40% of the representatives of territorial governments, “after accession of Poland to the European Union it is easier to obtain funds for development of collaboration”. Before the accession, 40% of municipalities from Warmia and Mazury voivodship collaborating with the Kaliningrad Oblast of the Russian Federation applied for EU funds while after the accession that percentage was over 50%.

The studies conducted showed that bodies of municipal government implement collaboration with the Kaliningrad Oblast of the Russian Federation through visits, consultations and mutual assistance on issues of the border area.

The studies on activities of 21 counties in the voivodship in relation to the Oblast show that out of 19 ordinary counties involved in foreign collaboration 14 maintain contacts with the Russian enclave representing over 70% of

³ Informal agreements are usually agreements based on loyalty of each of the parties concerning implementation of specific projects, e.g. joint planning, coordination of activities, consultations or agreement of positions. The parties solve specific problems without contracting legal liabilities.

counties involved in foreign collaboration (Fig. 3). Cities that are counties – Olsztyn and Elbląg – have partnership agreements and together with Elbląg area county and Nowe Miasto county participate in the Association of the Municipalities of the Republic of Poland members of Euroregion Baltic. Nine counties belong to the Association of Border Territorial Governments Euroregion Łyna – Ława. Only 5 counties: Działdowo, Iława, Mrągowo, Nidzica and Szczytno reported entire lack of contacts with the Oblast. It should be highlighted, however, that the majority of all counties covered declared willingness to establish collaboration with territorial governments in the Oblast in the future.

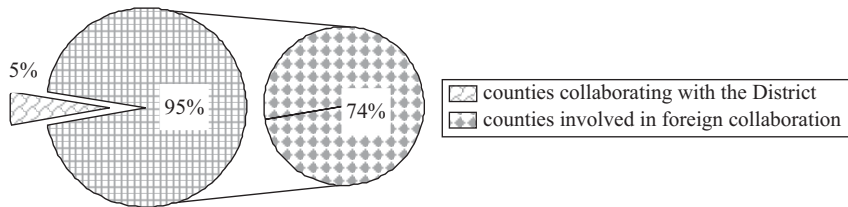


Fig. 3. Percentage of counties declaring established collaboration

Source: Own work based on own studies.

Analyzing the current status of the contacts between the counties of Warmia and Mazury voivodship with the Kaliningrad Oblast of the Russian Federation it should be assumed that to a large extent it is conditioned by the period of functioning of those structures in Poland. The analyzed period is too short to allow development of significant forms of mutual collaboration. The more so as counties of Węgorzewo, Olecko as well as Gołdap and Giżycko in their present shape have been in existence even shorter.

Activities of county governments cover independent initiatives as well as projects organized jointly with municipalities. Those cover in particular:

- cultural, educational and sports events – mainly by counties of Bartoszyce, Braniewo, Giżycko, Gołdap, Kętrzyn, Lidzbark, Olsztyn, Ostróda, Węgorzewo and the towns of Elbląg and Olsztyn;
- promotion of tourism and ecological projects – mainly by counties of Giżycko, Gołdap, Kętrzyn, Węgorzewo and the towns of Elbląg and Olsztyn;
- support to local entrepreneurs – mainly by counties of Bartoszyce, Kętrzyn and the towns of Elbląg and Olsztyn;
- activities for development of border infrastructure – mainly by counties of Bartoszyce, Gołdap, Węgorzewo and the town of Elbląg;
- activities for development of transport infrastructure;

- collaboration of emergency services – mainly by counties of Kętrzyn and Węgorzewo;
- exchange of experience in operation of local administration – all 14 counties involved in collaboration.

The information collected during the study indicates that representatives of the counties see their role mainly as that of the initiator for establishing the contacts⁴. The major form of current contacts between counties of Warmia and Mazury voivodship and the Kaliningrad Oblast of the Russian Federation is the mutual visits of working type or visits on the occasion of local celebrations.

The level of development of the collaboration does not match, however the potential for it. This results from the fact of existence of numerous obstacles and barriers that accompany the discussed collaboration⁵. The legal-administrative barrier was considered the most important (79%). According to the respondents the so-called political factor is of major importance. Tensions at central government level do not remain without influence on collaboration at local level. Additionally, implementation of the visa system hinders mutual collaboration. Lack of funds was ranked second among the barriers (69%). It was followed by limited access to information on the Russian partner (66%) and lack of support from the State (42%). Psychological barriers were ranked the least important (Tab. 1).

Table 1

Barriers to mutual collaboration (in %)

Barriers	Share in %*
Legal-administrative	79
Financial	69
Limited access to information on the partner	66
Lack of support by the State	42
Difficulties in finding partners for collaboration	35
Psychological barriers	28

* The respondents could express their opinion concerning each answer if they believed the barrier exists.

Source: Own work based on own studies.

According to the opinion of the majority of respondents, the quality and intensity of exchange depend on limitation or even liquidation of the existing barriers. This also covers improvement of the so-called political climate. The

⁴ Individual activity of people sitting in bodies of the counties who continue personal contacts established before establishment of those structures gains importance.

⁵ The study covered 37 units of territorial government possessing agreements with partners in the Oblast.

optimistic aspect is that the vast majority of entities covered were in favor of intensification of the collaboration in the future. Where there has been no such collaboration so far, willingness of establishing it was declared.

Analyzed municipalities and counties see benefits from collaboration in the following order: in the area of culture, tourism, education, economy, border crossings, environment protection and territorial government. The municipalities in particular support local entrepreneurs (organize exhibitions, joint trips) and various entities (schools, museums, houses of culture) searching for collaboration with the Oblast. In the most frequent area of collaboration – cultural events, contacts are diversified and frequent. They include meetings and exchange of the youth, artistic activities and folk events. Events organized by schools, sports events, fairs and exhibitions are also highly popular.

The results of all the projects include:

- development of crossborder collaboration,
- working meetings of representatives of local authorities serving exchange of experiences or coordination of current activities,
- participation in scientific conferences, research programs, economic symposia and seminars organized at both sides of the border.

The institutions with outstanding position in the field of collaboration are the Museum of Warmia and Mazury in Olsztyn, Museum of Folk Culture in Węgorzewo, Voivodship Public Library in Olsztyn and houses of culture⁶.

According to the opinions expressed by representatives of municipalities and counties of Warmia and Mazury voivodship, Consul General of the Republic of Poland in Kaliningrad plays an important role in initiating and promoting mutual contacts.

Summary and conclusions

The studies conducted allow formulating the following conclusions:

1. In summarizing the collaboration at the local level it is worth reminding that out of 21 counties in the voivodship 14 have established contacts with partners from the Kaliningrad Oblast, including 2 towns that are counties. All the border counties, i.e. those the northern borders of which are the border of the State, implement collaboration with the Russian partners while counties that have no contacts with the Kaliningrad Oblast of the Russian Federation are mainly situated in the southern part of the voivodship. Geographic nearness then determines the collaboration. Additionally, in the counties

⁶ Among others the House of Culture in Gołdap with Houses of Culture in the towns of: Gusiew, Oziersk and Niestirów.

where border crossings exist or their construction is planned the issues related to that motivate collaboration with Oblast administration and territorial government structures there.

2. Also the individual activity of people in the county authorities who continue personal contacts established still before establishment of county structures is important. The role of counties is frequently limited to initiating and promoting contacts implemented by organizational units responsible to them such as schools, museums, social aid homes or emergency services.

3. Municipalities as the longest existing tier of territorial government in Poland are the leaders as concerns the history of local collaboration. For some of them (particularly Bartoszyce, Gołdap) opening of border crossings in their areas was particularly important as the stimulus for initiating collaboration. 23 municipalities of Warmia and Mazury voivodship have established partnership agreements with the Russian enclave. Those situated the closest to the border are the most active ones: Bartoszyce, Gołdap, Węgorzewo. Those municipalities support cultural, educational and sports initiatives as well as local entrepreneurs interested in the market of the Kaliningrad Oblast.

4. The possibilities resulting from joint application for European Union aid funds represents an important motivation for establishment of collaboration by municipalities and counties. The accession of Poland to the European Union also had a positive effect on activities of those territorial government units in the area of applying for funding for development of collaboration.

5. The basic barriers to collaboration at the local level include legal-administrative and financial barriers while psychological barriers do not pose an important problem.

6. In view of the studies conducted it can be stated that lack of long-term vision for using the existing opportunities and as a consequence of filling the institutional frameworks with specific contents has been the important obstacle to development of collaboration between Warmia and Mazury voivodship and the Kaliningrad Oblast of the Russian Federation. Promotion of the region and activation of regional collaboration would be possible thanks to development of support tools. The character of the Oblast as an enclave and internationalization of its problems additionally determine the specific circumstances of the collaboration. The common heritage of the East Prussia, however, forms the additional base on which the relations of local identity are shaped.

Municipalities and counties of the voivodship, through collaboration with partners from the Kaliningrad Oblast of the Russian Federation achieve benefits using their cultural, educational and tourist potential.

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**THE IMPORTANCE OF REVITALISATION PROCESSES
FOR THE DEVELOPMENT OF TOWNS
IN THE PROVINCE OF WARMIA AND MAZURY**

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Key words: revitalisation, local development, town.

Abstract

Polish towns face various problems, such as unemployment, marginalisation and social exclusion, migration and damaged and neglected social fabric in towns. The aim of the paper is to show the revitalising actions which comprise the process of comprehensive spatial, economic and social restoration of degraded urban areas.

**ZNACZENIE PROCESÓW REWITALIZACJI DLA ROZWOJU MIAST WOJEWÓDZTWA
WARMIŃSKO-MAZURSKIEGO**

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Słowa kluczowe: rewitalizacja, rozwój lokalny, miasto.

Abstrakt

Miasta polskie borykają się z wieloma problemami, np.: bezrobociem, marginalizacją i wykluczeniem społecznym, migracjami, zniszczoną i zaniedbaną tkanką miejską. Celem artykułu jest wskazanie działań rewitalizacyjnych, będących kompleksowym procesem odnowy przestrzennej, ekonomicznej, społecznej zdegradowanych obszarów miejskich.

Introduction

The greatest problems associated with globalisation, that the Polish towns face, include: increasing mobility of the population, growing size and range of migration, concentration of the population in towns, aggravated problems of marginalisation and social exclusion and, what follows, increasing disintegration of local communities, restriction and chaos in urban spaces and the so-called “residential gap” or low quality of the natural environment.

Perceiving the functions of a town through its ability to satisfy the basic needs of its inhabitants is insufficient. Of increasing importance is the competitiveness of towns, which comprise the network of towns in a region, country or even the entire globe. As a consequence, there is a specific market of the products offered by a town, which are chosen by investors, potential inhabitants and tourists. Urban centres strive to attract new investment projects, capital, tourists and wealthy, educated inhabitants. In order to achieve this, they make use of their strong points and assets, such as attractive urban spaces. Unfortunately, many towns are affected by the problem of the low quality of urban space (e.g. centres and ancient living quarters). The need to improve the quality of life can be addressed by revitalisation of a selected area of a town.

Revitalisation is a complex process, which involves multiple entities and which produces results in many spheres. Revitalisation can be defined as a comprehensive process of restoration of an urban area whose space, functions and substance have been structurally degraded, bringing about a crisis situation which hinders or renders impossible any proper economic and social development of the area as well as the sustained development of the entire town. Revitalisation primarily aims at restoration of the previous functions of an area which has been degraded socially, economically and environmentally or changing its functions into new ones. Therefore, revitalisation is the process of spatial, economic and social change whose aim is to overcome a crisis situation in an area and which leads to development in the broad sense of the word¹.

Objective and methodology of the study

The aim of the paper was to present the concept of revitalisation as a tool which enables town development in view of the changes taking place in its surroundings.

¹ More on the subject in: *Odnowa miast...* (2000), *Rewitalizacja miast.* (2004), Ustawa o rewitalizacji oraz wspieraniu remontów i niektórych inwestycji budowlanych (draft, state as of 04.10.2006 r.).

To do this, a systemic and analytic research procedure was adopted. The systemic approach consisted in conducting literature studies in local development and revitalisation of urban spaces; the analytic approach – in analysing the process of revitalisation in selected towns of the Province of Warmia and Mazury.

The study dealt with 49 towns in the Province of Warmia and Mazury – especially small towns with populations of up to 20 thousand. The analysis covered the process of revitalisation conducted in the years 2004–2006 and the plans contained in local revitalisation programmes for the years 2007–2013.

Research results

In the Province of Warmia and Mazury there are 49 towns, 77% of which are small towns, with populations of up to 20 thousand. According to the data for the year 2005, the largest group are towns with populations of up to 5 thousand: Młynary, Sępól, Kisielice, Zalewo, Miłomłyn, Frombork, Pasym, Bisztynek, Miłakowo, Tolkmicko, Pieniężno, Ryn, Jeziorany, Mikołajki, Biała Piska, Górowo Iławeckie, Korsze and Ruciane-Nida. The next group are slightly larger towns, with populations from 5 to 10 thousand: Reszel, Susz, Orzysz, Barczewo, Olsztynek, Lidzbark, Lubawa, Orneta. Larger than them are: Biskupiec, Dobre Miasto, Nowe Miasto Lubawskie, Węgorzewo, Pasłęk, Gołdap, Morąg, Nidzica, however, their populations do not exceed 15 thousand. Then there are towns of up to 20 thousand, such as: Olecko, Lidzbark Warmiński, Braniewo, Pisz. Medium-sized cities (20–50 thousand) include: Działdowo, Mrągowo, Bartoszyce, Szczytno, Kętrzyn, Giżycko, Iława, Ostróda, with only the last two having more than 30 thousand inhabitants. The largest cities in the region are: Elk (55,793), Elbląg (127,415), Olsztyn (168,431).

Characteristic features of the towns of Warmia and Mazury include growing disproportions between the main city in the region and other urban centres. The main problems faced by the towns in the region are:

- a high unemployment rate,
- unfavourable migration outflow,
- changing demographic and occupational structure of town dwellers,
- low income of the population,
- poor condition of the infrastructure (including historical objects),
- insufficient residential resources, with a significant share of blocks of flats,
- large post-military areas which need new functions assigned to them,
- low level of economic activity,
- poor access to communication facilities,
- poor interest from external investors.

It is therefore reasonable to take actions aimed at curbing destabilisation of the structure of urban centres in the region. Revitalisation is one of such actions.

The most important aims of a town revitalisation process include:

- improving the quality of life in the area,
- protecting the existing values of the material culture and landscape,
- ensuring the safety of the population,
- preventing marginalisation of the area,
- creating new jobs,
- changing the image of the area,
- architectural restoration,
- integration of the area covered by revitalisation programs with the remaining part of the town,
- improvement of the condition of the natural environment.

Owing to the interdisciplinary nature of the process, the results of revitalisation are seen in many spheres: urban, economic, social, ecological, etc. The dualism of revitalisation effects is closely linked to the economic and cultural sphere, which is shown in the following illustration.

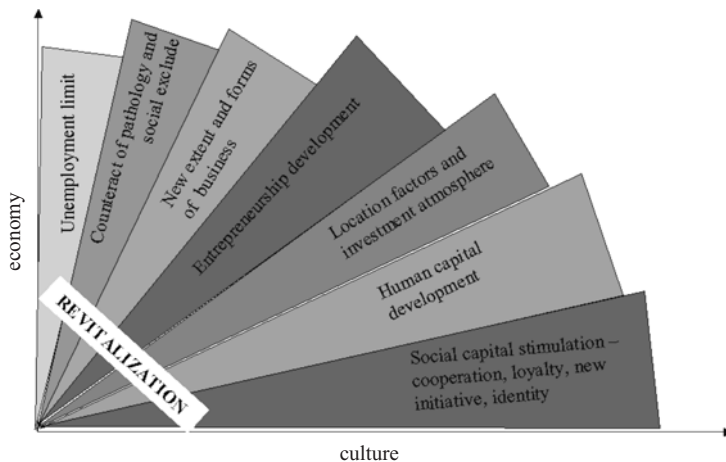


Fig. 1. Selected results of relations between the economy and culture in the process of revitalisation
Source: The authors' analysis.

The effectiveness of revitalisation depends on multiple factors, such as: coherence with the plans which are fundamental to the town development (e.g. the development strategy), commitment of the authorities and the local community, the partnership between the entities from the public, private and non-governmental sector, securing sufficient sources of funding.

Table 1

Projects subsidised within ZPORR in the Province of Warmia and Mazury

Town	Sub-action	Type of project	Project value (PLN)
Dobre Miasto	3.3.1.	Renovation of the building of the "Przyjaźń" cinema	1,431,000
Ełk	3.3.1.	Construction of phase II of the promenade in Ełk	3,802,733
	3.3.1.	Revitalisation of the town – repair and adaptation of an old tenement house for an artistic school	2,944,260
	3.3.1.	Renovation of the Rzemieśnicza and Bursztynowa street with a view to economic revival of the revitalised housing estates	2,755,908
Goldap	3.3.2.	Adaptation of post-military facilities in Goldap for sport and leisure facilities and a museum	2,110,810
Morąg	3.3.1.	Renovation of buildings and land development at the No. 3 Primary School	4,052,992
	3.3.1.	Renovation of streets and access roads at Kolonia Warszawska – phase I	3,975,712
	3.3.1.	Renovation of streets and access roads at Kolonia Robotnicza – phase II	3,132,295
	3.3.1.	Renovation of streets and access roads at Kolonia Warszawska – phase II	3,614,116
Mrągowo	3.3.2.	Renovation of the sports hall	2,079,439
	3.3.1.	Developing the PCK square and the land around Lake Magistrackie	4,266,000
Nidzica	3.3.1.	Renovation of the Town Hall – Phase I: Adaptation of the attic and repair of the roof of the Town Hall in Nidzica	1,013,506
Olsztyn	3.3.1.	Revitalisation of the old building at 3 General Józef Bem Square in Olsztyn	3,125,995
	3.3.1.	Adaptation of a tenement square for a Cultural Centre	9,700,143
	3.3.2.	Revitalisation of a post-military building (Polish Hunters' Association, Management Board)	3,322,687
	3.3.2.	Revitalisation of a post-military building for OWSiZ in Olsztyn	9,585,604
	3.3.1.	Maintenance and renovation of the Water Tower	1,903,831
Orneta	3.3.1.	Renovation and rebuilding of 3 ancient tenement houses	2,113,692
	3.3.1.	Renovation of tenement houses with architectural value and historic significance at Pionierów Street	858,875
Pieniężno	3.3.1.	Reconstruction of the Old Town Hall	2,517,183
Susz	3.3.1.	Revitalisation of the municipal park in The Old Town of Susz	359,967
Total			68,666,749

Source: www.zporr.warmia.mazury.pl

Many towns in the province of Warmia and Mazury have recognized the opportunity that is created by developing a comprehensive programme of revitalisation. Some examples of programmes that have been subsidised by the Integrated Operating Programme of Regional Development (ZPORR) 2004–2006 are presented below.

Most projects accepted for funding involved renovation of town centres (renovation of ancient houses, town halls) or adapting post-military areas to their new functions.

The projects grouped within action 3.3. (Degraded urban, post-industrial and post-military areas) regarded mainly sub-action 3.3.1. (Revitalisation of urban areas). The resources of sub-action 3.3.2. (Revitalisation of post-industrial and post-military areas) were used to subsidise only 4 projects. The value of the completed projects will amount to PLN 68,666,749, of which 71% are resources provided by EFRR.

The directions of future revitalisation projects in the towns of the Province of Warmia and Mazury are set by the Regional Operating Program for Warmia and Mazury for the years 2007–2013. The document lays down the following priority axes:

1. Enterprise;
2. Tourism;
3. Social infrastructure;
4. Town development, restructuring and revitalisation;
5. Regional and local transport infrastructure;
6. Natural environment;
7. Information society infrastructure;
8. Technical support.

The aim that stems from the priority axis of the development, restructuring and revitalisation of towns is to *strengthen the towns with a high potential for development as attractive centres of enterprise, service and place of residence (Regional Operating Programme..., p. 64).*

The actions centred around the axis are aimed at eliminating the causes and effects of degradation of the area and its revitalisation, understood to denote economic and social activation. Restoration of former splendour and ensuring the development of urban areas will be achieved in particular by three groups of activities: humanisation of the housing estates of blocks of flats, revitalisation of towns, restructuring and adaptation of post-military and post-industrial areas.

Humanisation of housing estates of blocks of flats will include modernisation of multi-family blocks of flats, built mainly of concrete slabs, together with their thermo-modernisation, replacement of heating systems and changes in the architectural layout of buildings. Modernisation will be combined with adaptation of rooms or entire buildings for cultural or therapeutic purposes,

for practising sport or for computer workshops, which will result in reinforcing the social functions in the housing estates and in creating new jobs.

The action termed *Revitalisation of towns* regards the centres of towns and old living quarters. Support is provided to the projects which contribute to the development of a revitalised area. These will include mainly the development projects for empty areas, improvement the functionality of traffic and aesthetic value of the public space, creating safety zones and crime prevention, assigning cultural and educational functions to degraded areas, renovation of buildings with architectural value and historic significance, rebuilding of public infrastructure with a view to development tourism, recreational and sporting functions, combined with business activity and creating infrastructural conditions for business development.

Within the third action, support will be provided to preparation of post-military and post-industrial areas for new investment projects, including the pulling down of old buildings or adapting the existing ones, reclaiming land and constructing local technical infrastructure.

Table 2

The financial plan for the Regional Operating Programme for Warmia and Mazury for the years 2007–2013 (€)

Priority axis	Community contribution	National contribution		Total
		National public contribution	Private contribution	
Enterprise	207,308,408	32,172,072	208,114,876	447,595,356
Tourism	134,750,465	23,780,847	102,893,676	261,424,988
Social infrastructure	62,192,522	10,975,151	0	73,167,673
Development, restructuring and revitalisation of towns	82,923,364	14,633,535	19,023,595	116,580,494
Regional and local transport infrastructure	352,424,294	75,220,235	5,853,414	433,497,943
Natural environment	93,288,784	22,636,249	10,975,151	126,900,184
Information society infrastructure	62,192,522	10,975,151	35,242,429	108,410,102
Technical assistance	41,461,682	0	0	41,461,682
Total	1,036,542,041	190,393,240	382,103,141	1,609,038,422

Source: Regional Operational Programme for Warmia and Mazury for the years 2007–2013 (www.zporr.warmia.mazury.pl)

The total of 1.6 billion Euro will be involved in completing the Regional Operating Programme for Warmia and Mazury. The amount will comprise 64.4% of funds from the European Regional Development Fund, 11.8% of public resources and 23.8% from private sources. Revitalisation actions performed within the Regional Operating Programme for Warmia and Mazury

will involve over 116 million Euro, which will comprise 71% of the community contribution, 12.5% – national public contribution, and the remaining 16.5% – from private sources (*Regional Operational Programme...*, p. 86–87).

Summary

Carefully planned and performed revitalisation of urban space is not only a way to improve the living conditions of local communities but also to achieve a higher level of urban development. In the province of Warmia and Mazury there are mainly small towns and most of them have populations under 5 thousand. They frequently face problems of emigration of young people, increasing unemployment and various social issues. The poor condition of infrastructure and frequently neglected centres of towns do not favour the improvement of their image, the quality of their lives and attracting tourists or investors.

Warmia and Mazury is a region with a potential for tourism which is not made full use of. Owing to the quality of the landscapes, the good quality of the environment and numerous monuments of architecture, even the smallest towns in the region can benefit from the development of tourism. There is a chance to achieve this purpose if a properly developed programme of revitalisation is performed, taking into account the diagnosis of the socio-economic situation, its main problems and development opportunities.

Owing to its multi-facet and inter-disciplinary nature, revitalisation requires a broader look and balancing the actions and in further perspective, also the effects in the social, economic and spatial perspective. Its effectiveness depends on a thorough diagnosis of the urban area, the ability to construct a financial assembly, which requires several entities to be involved, both from the public and private sector. Many towns from the Province of Warmia and Mazury have recognized the opportunity provided by developing a revitalisation programme and are making use of it as a development tool.

Translated by JOANNA JENSEN

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COMPETENCES OF THE SME'S AND PUBLIC ORGANIZATIONS' MANAGEMENT STAFF

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Key words: social potential, model of competences, enterprise, public organisation.

Abstract

Market position of enterprises and quality of operations of public organisations depend on numerous variables positioned within and outside those entities. The social potential within the enterprise or public organisation is one of such internal variables.

The study aimed at assessment of quality of the management in enterprises of SME sector and public organisations, including units of territorial government. The empirical material collected revealed the competence gaps mainly in the areas of personality predispositions and management skills.

KOMPETENCJE KADRY MENEDŻERSKIEJ MSP I ORGANIZACJI PUBLICZNYCH

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Słowa kluczowe: potencjał społeczny, model kompetencji, przedsiębiorstwo, organizacja publiczna.

Abstract

Pozycja rynkowa przedsiębiorstw oraz jakość działań organizacji publicznych zależą od wielu zmiennych umiejscowionych wewnątrz oraz na zewnątrz tych podmiotów. Jedną z wewnętrznych zmiennych jest potencjał społeczny tkwiący w przedsiębiorstwie lub organizacji publicznej.

Celem badań była ocena jakości kompetencji zarządzających przedsiębiorstwami zaliczanymi do sektora MSP oraz organizacjami publicznymi, w tym jednostkami samorządu terytorialnego. Zebrany materiał empiryczny ukazał luki kompetencyjne umiejscowione głównie w predyspozycjach osobowościowych oraz w umiejętnościach zarządczych.

Introduction

Every organisation aims at achievement of market success. In case of enterprises it translates into a strong market position and in activities of the public organisations the aim is to satisfy the needs and expectations of stakeholders of those organisations at high level of quality and possibly the lowest costs.

Enterprises and public organisations may compete in various ways. Some aim at retaining or building the monopolistic position. Other rationalise their material and financial resources. Still others aim at obtaining “secret” information thanks to which they can be ahead of the competitors. The activities presented are not mutually exclusive. In practical terms those strategies are applied in parallel. Each organisation also aims at minimising the production costs but that path is limited by reasons of quality, as minimising the costs cannot deteriorate quality, which in consequence could cause resignation of customers from the producer or supplier of services. As a consequence current managements are searching for specific resources differentiating them from competitors. It seems that competences of the management staff of enterprises and public organisations represent such a resource.

Subject literature provides a rich description of competence models of the management staff. It refers, however, mainly to managers of large business organisations. A shortage of empirical studies concerning the management staff of SME sector enterprises and public organisations, on the other hand, is noticeable. The results presented in the paper might represent modest contribution to filling that gap.

Research assumptions

At the Chair of Organisation and Management works are in progress on the research subject “Social potential of enterprises and public organisations”. Assessment of the social potential of management staff in enterprises and public organisations, including units of territorial government was one of the objectives of that subject.

The term social potential is defined widely. In the current research subject it was assumed that competences of management staff are one of the components of that potential. As a consequence, the described partial studies aimed at identification and defining the competence gap of the management staff categorised according to position and function held. As a consequence competences¹ of managers were the subject and owners and managers in enterprises and managers in public organisations were the object of the studies.

The research problem was formulated in the form of the question: what are the key competences of the managers of micro and small enterprises and managers employed in public organisations? To solve that problem the research procedure was focused on finding answers to four fundamental detailed questions:

1) what competences form the model of competences of key management staff in micro and small enterprises and public organisations?

2) do models of competences of entrepreneurs and managers in public organisations differ?

in which competences the largest gaps exist?

3) is there any concurrence as concerns the subject scope in competence gaps encompassed by models?

In view of the objective of studies and the detailed questions the following hypothesis was formulated: sets of competences forming the models differ significantly and the largest gaps occur in management competences, including human resources management competences.

The study used the methods of diagnostic polls, ABC based on Pareto principles and self-evaluation. The research techniques were questionnaire-based studies and interviews and the research tools were the questionnaires or polls and interviews of own design.

The respondents were managers of SME sector enterprises, managers in those enterprises and management staff employed in public organisations. In total the analysis covered contents of 435 questionnaires completed by:

a) 140 owners who at the same time were managers of micro and small enterprises conducting business in services and production-services-trade in the hospitality sector (hotels and gastronomy), transport and communication as well as industry and construction;

b) 186 line managers employed in enterprises described in point a;

c) 56 managers employed in large and medium size public organisations from banking and insurance institutions sector;

d) 53 managers employed in units of territorial government at municipality (15), county (27) and voivodship (11) level.

The respondents were selected at random. Among potential respondents 637 managers were approached directly and 200 by electronic means. Not all the questionnaires returned were correctly (completely) completed. Out of 435 questionnaires mentioned above only 38 were received by electronic means.

¹ Termin *kompetencje* oznacza w tym opracowaniu zestaw wiedzy, umiejętności, cech osobowościowych, doświadczenia, postaw i zachowań kierownika nakierowany na sprawne działanie (R. Walkowiak 2004. *Model kompetencji menedżerów organizacji samorządowych*. Uniwersytet Warmińsko-Mazurski w Olsztynie, Olsztyn).

The contents of questionnaires were subject to quantitative and qualitative analysis followed by comparative analysis.

Results of studies

The questionnaire delivered to the respondents personally or by electronic means contained the list of 50 competences. Those competences were selected on the basis of theoretical models presented in subject literature. The task of respondents was to indicate ten, in their opinion most important in their work, competences and next ranking them in the scale from 1 (lowest value) to 5 (highest value) according to the level of possessing those competences. They were asked to indicate the demanded (desired) level and the actual level at which the given competence is manifested in their practical behaviours.

Data presented in Table 1 present approximated, as concerns the number, set of competences, although the sets are not identical, as well as importance of individual competences is diverse. Agreement occurred only in case of the most important, according to respondents, competence, i.e. business sector knowledge.

Table 1
Hierarchy of competences of managers of enterprises

Competence name	Hotels and gastronomy ¹				Transport and communication ²				Industry and construction ³			
	W	status		LK	W	status		LK	W	status		LK
		P	A			P	A			P	A	
1	2	3	4	5	6	7	8	9	10	11	12	13
Business sector knowledge	1	4.7	3.8	-0.9	1	4.8	3.8	-1.0	1	4.8	4.4	-0.4
Creativity	2	4.5	3.7	-0.8	7	4.4	3.5	-0.9	8	3.9	2.7	-1.2
Professional experience	3	4.7	3.8	-0.9	2	4.5	4.1	-0.4	15	4.1	3.3	-0.8
Care for quality	4	4.8	4.0	-0.8	3	4.6	3.5	-1.1	2	4.8	4.3	-0.5
Focus on success	5	4.7	4.1	-0.6	-	-	-	-	9	4.7	4.1	-0.6
Care for reputation	6	4.8	4.2	-0.6	10	4.3	3.7	-0.6	6	4.2	4.0	-0.2
Panning skills	7	4.7	3.6	-1.1	-	-	-	-	3	4.7	4.5	-0.2
Communicativeness	8	4.8	3.7	-1.1	4	4.5	3.8	-0.7	13	4.4	2.9	-1.5
Focus on cooperation	9	4.3	3.1	-1.2	14	4.3	3.1	-1.2	17	4.3	2.8	-1.5
Skills in motivating others	10	4.5	3.2	-1.3	6	4.5	3.9	-0.6	11	4.0	2.9	-1.1
Energy (vitality)	11	4.5	4.0	-0.5	16	4.4	3.9	-0.5	-	-	-	-
Negotiation skills	12	4.7	3.2	-1.5	8	4.8	3.5	-1.3	10	4.5	3.3	-1.2
Teambuilding skills	13	4.5	3.8	-0.7	-	-	-	-	-	-	-	-
Conflict solving skills	14	4.8	4.0	-0.8	17	4.5	3.7	-0.8	-	-	-	-
Care for costs	15	4.5	4.2	-0.3	9	4.2	3.8	-0.4	7	4.7	3.9	-0.8

cont. table 1

1	2	3	4	5	6	7	8	9	10	11	12	13
Resistance to stress	16	4.3	2.6	-1.7	5	4.4	3.3	-1.1	-	-	-	-
Consistency in action	17	5.0	3.8	-1.2	13	4.5	3.5	-1.0	18	4.5	3.2	-1.3
Skills of working in a team	18	4.2	3.4	-0.8	12	4.4	3.9	-0.5	12	3.9	3.5	-0.4
Actions coordination skills	19	4.5	3.0	-1.5	-	-	-	-	19	4.6	3.7	-0.9
Strategic thinking	-	-	-	-	11	4.8	3.6	-1.2	-	-	-	-
Innovativeness	-	-	-	-	15	4.4	2.5	-1.9	5	4.4	3.3	-1.1
Focus on own development	-	-	-	-	18	4.5	2.8	-1.7	-	-	-	-
Skills of catching the opportunity	-	-	-	-	19	4.3	3.0	-1.3	14	4.6	3.2	-1.3
Focus on changes	-	-	-	-	20	4.4	3.6	-0.8	20	4.4	3.9	-0.5
Focus on the future	-	-	-	-	-	-	-	-	21	4.2	3.8	-0.4
Fascination with work	-	-	-	-	-	-	-	-	4	4.2	2.9	-1.3
Situation analysing skills	-	-	-	-	-	-	-	-	16	4.1	3.0	-1.1

Source: Own studies.

Legend:

W – importance (order) of competences

P – desired status of competences

A – actual status of competences

LK – competence gap

Population of study group:

¹ $n = 39$, including 17 managers of small enterprises and 22 owners (managing) micro-enterprises,² $n = 35$, including 20 managers of small enterprises and 15 owners (managing) micro-enterprises,³ $n = 66$, including 27 managers of small enterprises and 39 owners (managing) micro-enterprises.

Key competences were determined on the basis of ABC method based on Pareto principles, and the index of efficiency of management activities was assumed at the level of 80%. That rigor necessitated expanding the set of key competences. As a consequence the models of key competences encompass not only those listed in subset A (according to Pareto analysis) but also all competences of subset B (in the model for hotels and gastronomy sector) and 85% of competences from subset B in the models for sectors of transport and communication as well as industry and construction. If the number of competences in individual subset had been limited to subset A only, the management efficiency would have been at the level of 47.5% (hotels and gastronomy), 53.8% (transport and communication) and 48.5% (industry and construction) respectively, which would offer highly unsatisfactory solutions.

According to the same methodology key competences for persons holding management positions in enterprises from the covered sectors. The results obtained are presented in Table 2.

The number of competences included in models presented in Table 2 is similar. Assuming the same as for the (managing) owners of enterprises

assumption as concerns management efficiency it was necessary to include among key competences all the competences from subset A (according to Pareto principles) and almost all competences from subset B (secondary). Narrowing the list of competences only to those included in subsets A would render efficiency of management activities at the levels of 41.2% (hotels and gastronomy), 46.7% (transport and communication) and 47.6% (industry and construction) respectively.

Table 2
Hierarchy of competences of managers of enterprises

Competence name	Hotels and gastronomy ¹				Transport and communication ²				Industry and construction ³			
	W	status		LK	W	status		LK	W	status		LK
		P	A			P	A			P	A	
1	2	3	4	5	6	7	8	9	10	11	12	13
Business sector knowledge	1	4.7	3.5	-1.2	1	5.0	4.8	-0.2	1	4.8	4.3	-0.5
Creativity	2	4.1	3.8	-0.3	3	4.1	3.3	-0.8	8	4.1	3.0	-1.1
Focus on cooperation	3	4.0	3.2	-0.8	12	4.6	4.0	-0.6	20	3.8	3.6	-0.2
Professional experience	4	4.8	4.2	-0.6	4	4.1	4.0	-0.1	2	4.7	4.3	-0.4
Activities coordinating skills	5	3.6	3.0	-0.6	-	-	-	-	22	4.1	3.7	-0.4
Skills in motivating others	6	4.6	3.4	-1.2	5	4.8	3.5	-0.5	6	4.3	3.1	-1.2
Expansiveness	7	3.8	3.4	-0.4	-	-	-	-	-	-	-	-
Situation analysing skills	8	3.8	3.1	-0.7	22	4.2	3.8	-0.4	-	-	-	-
Care for quality	9	4.2	3.8	-0.4	7	4.8	4.0	-0.8	3	4.8	4.3	-0.5
Personal culture	10	4.8	4.2	-0.6	-	-	-	-	-	-	-	-
Skills of working in a team	11	4.1	2.8	-1.3	2	4.5	3.9	-0.6	-	-	-	-
Resistance to stress	12	3.0	2.8	-0.2	6	4.6	3.4	-1.2	7	4.2	3.2	-1.0
Focus on processes	13	4.1	3.8	-0.3	21	5.0	3.8	-1.2	14	4.0	3.5	-0.5
Care for reputation	14	4.5	3.8	-0.7	18	4.8	3.6	-1.2	13	4.5	4.4	-0.1
Conflict solving skills	15	4.6	3.0	-1.6	10	4.6	3.4	-1.2	9	4.6	3.3	-1.3
Focus on success	16	4.2	3.7	-0.5	9	4.4	4.1	-0.4	11	4.5	4.2	-0.3
Focus on results	17	4.0	3.5	-0.5	-	-	-	-	5	4.5	4.0	-0.5
Delegation of authority	18	4.2	3.6	-0.6	-	-	-	-	19	3.6	3.5	-0.1
Care for costs	19	4.3	3.5	-0.8	23	4.8	4.1	-0.7	4	4.9	4.1	-0.8
Ethical conduct	20	4.6	3.4	-1.2	-	-	-	-	-	-	-	-
Cultural flexibility	21	4.3	3.0	-1.3	-	-	-	-	-	-	-	-
Consistency in actions	22	4.2	3.0	-1.2	15	4.5	3.4	-1.1	18	4.4	4.0	-0.4
Analytical thinking	23	4.1	3.1	-1.0	14	4.0	3.0	-1.0	-	-	-	-
Planning skills	24	4.0	3.2	-0.8	-	-	-	-	17	4.2	3.5	-0.7
Extraversion	25	3.6	2.8	-0.8	-	-	-	-	-	-	-	-
Communicativeness	-	-	-	-	8	4.5	4.1	-0.4	10	4.3	3.7	-0.6

cont. table 2

1	2	3	4	5	6	7	8	9	10	11	12	13
Energy (vitality)	-	-	-	-	11	4.7	2.9	-1.8	21	4.5	3.8	-0.7
Teambuilding skills	-	-	-	-	13	4.3	3.8	-0.5	26	3.5	3.2	-0.3
Negotiation skills	-	-	-	-	16	4.2	2.8	-1.4	15	3.9	3.5	-0.4
Focus on own development	-	-	-	-	17	4.4	3.2	-1.2	25	4.8	3.8	-1.0
Skills of catching the opportunity	-	-	-	-	19	4.8	3.1	-1.7	23	4.0	2.8	-1.2
Strategic thinking	-	-	-	-	20	4.8	4.2	-0.6	-	-	-	-
Focus on the future	-	-	-	-	12	4.3	3.8	-0.5	-	-	-	-
Innovativeness	-	-	-	-	-	-	-	-	16	4.3	3.1	-1.2
Focus on changes	-	-	-	-	-	-	-	-	24	4.1	3.3	-0.8

Source: Own studies.

Legend: as in tab. 1.

Population of study group:

¹ $n = 46$, including 23 managers from micro and 23 managers from small enterprises,² $n = 55$, including 29 managers from micro and 26 from small enterprises,³ $n = 85$, including 24 managers from micro, 32 from small and 29 from medium enterprises.

For line managers, similar to (managing) owners of enterprises in which they work, the most important competence is business sector knowledge on the sector they operate in. Competence gaps were diagnosed in all competences, and the largest ones were recorded in case of managers working in the sectors of transport and communication enterprises.

The subject scope of studies also covered the competence models of managers in public organisations. The analysis encompassed questionnaires completed by managers employed in banking and insurance sectors (56 in total) and managers employed in territorial government units at municipality, county and voivodship level (53 in total). From other public organisations marginal numbers of questionnaires were returned and they were disregarded from analysis. The results of studies are presented in Table 3.

Opinions of managers in banking/insurance and territorial government units are convergent as concerns the two most important for them competences, i.e. business sector knowledge and skills of delegating authority. In both abovementioned competences significant and compatible gaps were also recorded. Additionally, in case of managers from territorial government units shortages, at a similar level, in competences of skills of working in a team, creativity and conflicts solving skills were also present. On the other hand, among managers from banking/insurance sector the largest gaps were recorded in competences such as skills of motivating others, analytical thinking and resistance to stress.

Table 3

Hierarchy of competences of managers in public organisations

Competence name	Banking/insurance ¹				Units of territorial government ²			
	W	status		LK	W	status		LK
		P	A			P	A	
Business sector knowledge	1	4.8	4.4	-0.4	1	4.9	4.6	-0.3
Delegation of authority	2	3.9	3.0	-0.9	2	4.2	3.2	-1.0
Skills of working in a team	3	4.5	4.5	0.0	9	4.0	3.9	-0.1
Creativity	4	4.0	3.5	-0.5	5	4.6	3.6	-1.0
Professional experience	5	4.3	4.1	-0.2	12	3.5	3.8	0.3
Communicativeness	6	5.0	4.3	-0.7	-	-	-	-
Focus on own development	7	4.7	4.5	-0.2	14	4.0	4.0	0.0
Focus on results	8	4.5	3.8	-0.7	-	-	-	-
Conflicts solving skills	9	4.3	3.8	-0.5	6	4.5	3.5	-1.0
Resistance to stress	10	4.6	3.5	-1.1	4	4.5	4.0	-0.5
Analytical thinking	11	4.7	3.1	-1.6	2	4.4	4.0	-0.4
Skills of motivating others	12	4.7	3.0	-1.7	8	4.0	3.6	-0.4
Care for quality	13	4.8	4.2	-0.6	-	-	-	-
Teambuilding skills	14	4.5	4.0	-0.5	10	4.5	3.7	-0.8
Consistency in actions	15	4.0	4.2	-0.2	11	4.1	4.1	0.0
Skills of analysing situation	16	4.1	3.8	-0.3	-	-	-	-
Focus on cooperation	-	-	-	-	7	5.0	4.2	-0.8
Planning skills	-	-	-	-	13	4.0	3.8	-0.2

Source: Own studies.

Legend: as in tab. 1.

Population of study group:

¹ $n = 56$, including 35 managers employed in large and 21 in medium organisations,² $n = 53$, including 11 managers employed in territorial government units of voivodship, 27 – county and 15 – municipal level.

Conclusion

The goal of research assumed was achieved because during the research procedure answers were obtained to all formulated questions. The formulated hypothesis was verified positively in part only. It was established that competence models (sets of competences) of managers in enterprises and organisations from encompassed sectors were significantly coherent although the respondents allocated different values to those competences. The second part of the hypothesis was verified positively because the largest gaps were identified in management competences.

The empirical material collected during the research procedure allows formulating the following conclusions:

1. In conducting hierarchical organization of competences it can be noticed that in all models subject knowledge related to the sector in which the enterprise/organisation operates is the most important competence.

2. Gaps positioned in personality predispositions (e.g. resistance to stress, consistency in actions) as well as knowledge and skills of managing people (skills of negotiation, solving of conflicts) occur in the vast majority of key competences identified.

3. Lists of competences considered by respondents the key ones had to be expanded by competences included in the secondary subset (according to Pareto principles) to obtain management efficiency at the level of 80%.

4. None of the identified models of key competences included, among others, such social competences as skills of creating organisational culture, focus on satisfying social needs, cultural flexibility, skills of winning supporters or social responsibility.

In view of the above conclusions the following recommendations for practitioners in management and institutions providing education for potential managers or upgrading competences of people already holding management positions can be formulated:

1. People who are owners and at the same time managers of SME sector enterprises and managers employed in such enterprises should change their awareness as concerns the necessity of permanent improvement in the areas of enterprise management including human resources management.

2. Management staff employed in public organisations should, next to continuous improvement in business subject areas, also improve its human resources management skills.

3. Knowledge of management skills and socio-psychological knowledge thanks to which the chances of effective human resources management, on which success of any organisation is mainly dependent, increase should be articulated to a larger extent than currently in the process of educating managers.

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**STRUCTURED CERTIFICATES OF DEPOSIT
AS AN EXAMPLE OF ALTERNATIVE INVESTMENTS
ON THE FINANCIAL MARKET**

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Key words: alternative investment, structured products, structured certificates of deposit.

Abstract

The object of research has been the Structured Certificates of Deposit issued by a bank for which the reference index is the EUR/USD exchange rate. The research has been carried out on the basis of three hypothetical situations of the EUR/USD exchange rate on the foreign exchange market.

**STRUKTURYZOWANE CERTYFIKATY DEPOZYTOWE JAKO PRZYKŁAD INWESTYCJI
ALTERNATYWNEJ NA RYNKU PIENIĘŻNYM**

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Słowa kluczowe: inwestycje alternatywne, strukturyzowane produkty, strukturyzowane certyfikaty depozytowe.

Abstrakt

Celem artykułu jest ocena opłacalności inwestowania w strukturyzowane instrumenty finansowe dostępne na polskim rynku pieniężnym. Przedmiotem badań jest Strukturyzowany Certyfikat Depozytowy (SCD) emitowany przez bank, którego indeksem odniesienia jest poziom kursu EUR/USD. Badania przeprowadzono na podstawie trzech hipotetycznych scenariuszy kształtowania się kursu EUR/USD na rynku walutowym w zależności od trzech kwot inwestycji.

Introduction

Growth of new products that include structured certificates of deposit is observed in the Polish financial market. Those instruments represent investments alternative to traditional forms, such as bank deposits. They encompass a wide and diversified group of financial products and services. The alternative investments include, among others the hedge type funds, funds of funds, private equity/venture capital type funds, structured products, investments in works of art, real property and other.

Alternative investments are available mainly to institutional investors and wealthy individual investors as the investors intending to invest their cash surplus in hedging funds or private equity funds must usually invest the amount of several million zlotys. Conditions offered by those funds often eliminate small investors. Additionally, long-term character of alternative investments requires freezing the capital for a couple or even several years. As a consequence many retail investors are not ready to allocate their capital for such a long time, even if the award in a long-term perspective is to be a high rate of return.

The nature and notion of structured financial products (instruments)

Structured financial instruments offered by banks and other financial institutions represent an alternative funds investment option for retail investors. Those instruments are innovative products targeted mainly at small clients participating in the financial market. Structured instruments combine “conservatism” of traditional deposits with investments in specific financial instruments. Structuring of the instrument represents the design of such a financial product where the level of interest paid can be dependent on the value of indexes such as: currency exchange rates, stock exchange indexes, interest rates, stock process and other. Depending on the type of reference index (indexes) the structured instruments are divided into the following groups (GUDASZEWSKI, HNATIUK 2004): Equity-Linked Notes (stock prices, stock exchange indexes are the reference indexes), Credit-Linked Notes (bank events, e.g. bankruptcy, change of credit spread are the reference indexes), Commodity-Linked Notes (prices of commodity instruments are the reference indexes), Currency-Linked Notes (currency exchange rates or baskets of currencies are the reference indexes), Interest-Rate-Linked Notes (market interest rates, e.g. WIBOR are the reference indexes) and Hedge-Fund-Linked Notes (measures of value of the hedge type funds units are the reference indexes).

When the criterion is the purpose for which the structured instrument was designed, we divide the instruments into Principal Protected Notes (PPN) and Yield Enhanced Notes (YEN). The first category covers products that do not offer the investor the possibility of participation in current revenues until maturity of the instrument. The basic objective for establishment of the instrument is to secure the capital invested against decrease in value. The main advantage of the Principal Protected Notes is that they guaranty the reimbursement of the entire invested principal and additional rate of return resulting from the change in the reference index for the investor. In that way the risk of loss of the invested capital is eliminated. The second category of products – Yield Enhanced Notes – covers the products that offer the investor systematic income. In this case the rate of return on investment is often higher than the average interest on fixed rate deposits. The investor who invested his capital bears the risk related to not receiving back a part of the amount of capital invested if the base instrument does not achieve the expected result.

Capital invested in a structured instrument consists of two basic parts. The first one – safe – is invested in risk free instruments, e.g. treasury securities while the second one – risk bearing – is invested in derivative instruments, in most cases the options. A typical structured instrument is a capital-guaranteed product the safe part of which consists of zero-coupon bond coupled with the option for purchase of the base instrument (index or basket of indexes). The total amount disbursed to the buyer of instrument structured in that way at the end of the investment period will depend on the change in price of the reference index. On maturity date of zero-coupon bond the investor will receive reimbursement of the entire capital invested (the nominal value of bonds). If the situation at the end of the investment period is favorable, the investor, in addition to reimbursement of capital invested, will also receive income resulting from the change in the base instrument (index) price. That situation is presented in Figure 1.

Although Polish market of structured instruments is small, products linked to the capital market appear in the offer of products, mainly offered by banks. Those products have been prepared mainly for medium size clients from private banking segment who want to invest their money in the market on their own. The typical products offered for some time for that group of customers include investment deposits. Those are instruments that offer increased interest rates than classic time deposits included in offers of banks coupled with limited risk. Banks offering such deposits usually guarantee fixed and strictly specified interest rate and achievement of additional profit depending on the situation on the capital markets. Limitation of the risk of loss of capital value by offering the investor the disbursement of 100% of the initial investment amount is the additional benefit for the investor. There are also deposits dependent on the results of investment funds. In that type of products

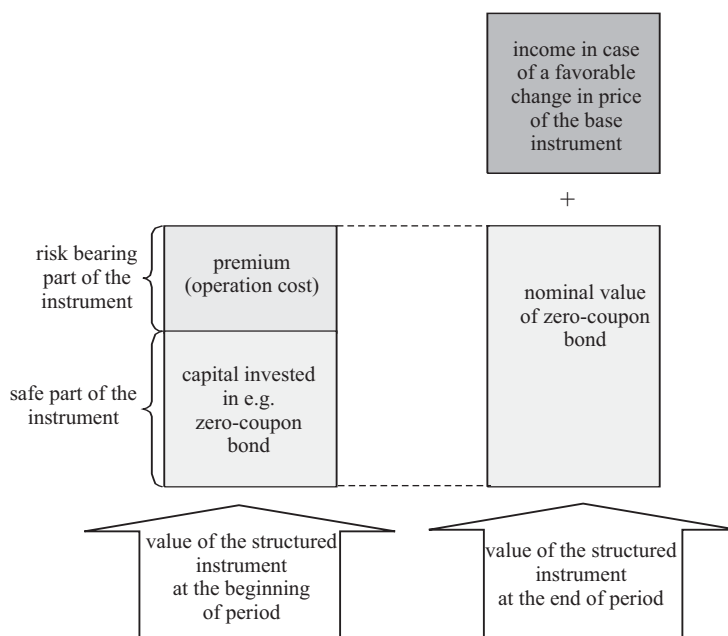


Fig. 1. Design and behavior over time of a structured financial instrument based on zero-coupon bond coupled with base instrument purchase option

Source: Own work.

the investor is given the possibility to decide which part of the money will remain on banking account and how much will be invested in funds. The investment deposits are usually established for 2 to 5 years and are not renewable.

The structured certificate of deposit (SCD) is another quite interesting structured product included in the offer of the major banks. That certificate is a short-term bearer securities issued by banks. At SCD maturity the issuing bank commits itself to disburse to the buyer the amount invested together with the interest due. The interest is dependent on the market variable selected, e.g. currency exchange rate, level of interest rates, stock exchange index, stocks purchase price, etc. The investment in SCD offers the possibility of achieving higher return than on bank deposits on conditions of fulfillment of the market assumptions made while it guarantees reimbursement of capital on investment maturity.

The bank selling that instrument guarantees that on the date of maturity of the investment it will purchase back the SCD from the client at a price equal to the purchase price determined at the beginning of the investment period. This means that on the date of maturity the investor will receive at least the

amount invested in the SCD. On any other day preceding the maturity date the bank does not guarantee 100% reimbursement of capital invested.

Aim and methodology of studies

The study aims at determining the profitability of investment in structured certificate of deposit issued by a bank for which the reference index is the EUR/USD exchange rate. The instrument was issued on 12–21 November 2007 and targeted at clients who forecast strengthening of the USD against the EUR during the period of 6 months following the issuance date. According to the conditions of the investment the client will receive premium interest if the expectations of the clients concerning the changes in the EUR/USD exchange rate prove right. The conditions of investment and threshold profitability amounts depending on the amount invested in the SCD are presented in Table 1.

Conditions of investment in structured certificates of deposit

Table 1

Subscription period	12-21 November
Reference exchange rate	EUR/USD ECB fixing of 22 November 2007
Fixing date	23 May 2008
Settlement rate	EUR/USD rate computed according to the formula: fixing NBP EUR/PLN divided by fixing USD/PLN, of 22 November 2007
Investment period	24 November 2007 – 25 May 2008
Issuance date	24 November 2007
SCD buy back date	25 May 2008
Interest payment date	25 May 2008
Nominal value of 1 SCD	500 USD

Source: Prepared on the basis of bank SCD issuance conditions.

The interest on the investment will accrue according to the following formula:

$$(\text{reference exchange rate} - \text{settlement exchange rate}) \times \text{participation level} \times 360/182$$

The studies were conducted on the basis of three hypothetical scenarios (situations) of EUR/USD exchange rate development in the foreign exchange market on instrument maturity date. The actual profitability rate of the

studied instrument was computed for three ranges of amounts of investments in USD at specified participation levels. The ranges of investment amounts, participation levels and maximum investment profitability ranges for three groups of investors are presented in Table 2.

Table 2
Maximum profitability amounts and participation levels depending on the investment amount

Investment amount in USD	Participation level (%)	Maximum investment profitability (%)
50 000	58.65	7.2
25 000 – 49 500	44.49	5.5
3 000 – 24 500	28.32	3.5

Source: Prepared on the basis of bank SCD issuance conditions.

If on the fixing date (23 May 2008) the settlement exchange rate will be equal or higher than the purchase exchange rate, the profitability of investment will be 0% per annum. The development of the certificate coupon interest level depending on the reference exchange rate is presented in Table 3.

Table 3
Assumed values of EUR/USD ECB fixing and interest rate of the coupon within three ranges on the investment maturity date (22 November 2007)

EUR/USD ECB fixing of 22 November 2007	Coupon interest rate (% p.a.)
Under 1.4200	7.2/5.5/3.5
Lower than 1.4825, but over 1.4200	According to the formula: (1.4825 – settlement exchange rate) x participation level in % x 360/182
Equal to or higher than 1.4825	0%

Source: Prepared on the basis of bank SCD issuance conditions.

According to hypothetical scenarios on the foreign exchange market on 23 May 2008 where depending on the three forms of investment (>50 000, 25 000 ÷ 49 500 and 3000 ÷ 24 500 USD) three situations occurred according to which the **settlement exchange rates** (K_{roz}) were as follows:

1. 1.4300,
2. 1.4180,
3. 1.4900.

In the studies two exchange rates were assumed: the reference rate (K_{od}) at 1.4825 EUR/USD and minimum rate (K_{min}) at 1.4200 EUR/USD. If the

settlement exchange rate on the instrument maturity date is equal to or lower than K_{min} , then the investor will obtain the maximum profitability of the investment, i.e. 7.2/5.5/3.5% (depending on the amount of capital invested).

Results of studies

The development of bank structured certificates of deposit depending on three forms of investment in that instrument is presented in Tables 4, 5 and 6, while the profiles of disbursements to investors in each of the three situations are presented in Figures 2-10.

Situation I

The settlement exchange rate is lower than the reference rate but higher than the minimum rate

$$K_{min} < K_{roz} < K_{od}$$

$$K_{roz} = 1.4300 \text{ EUR/USD}$$

Table 4
Development of profitability depending on the capital amount of the investment (SCD) in situation I

Investment amount in USD	SCD profitability on instrument maturity data (%)	Maximum profitability of the investment guaranteed by the bank (%)	Actual profitability (%)
50 000 >	$(1.4825 - 1.4300) \times 58.65\% \times 360/182 = \mathbf{6.1}$	7.2	6.1
25 000 ÷ 49 500	$(1.4825 - 1.4300) \times 44.49\% \times 360/182 = \mathbf{4.6}$	5.5	4.6
3 000 ÷ 24 500	$(1.4825 - 1.4300) \times 28.32\% \times 360/182 = \mathbf{2.9}$	3.5	2.9

Source: Own work.

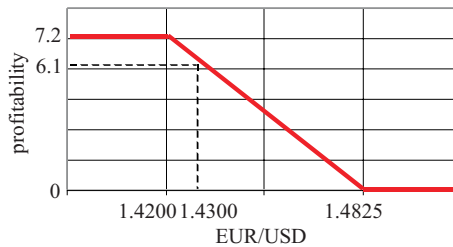


Fig. 2. Disbursement profile for the investor (>50 000 USD), if $K_{roz} = 1.4300 \text{ EUR/USD}$
Source: Own work.

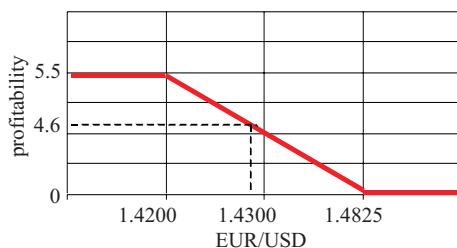


Fig. 3. Disbursement profile for the investor (25 000 ÷ 49 500 USD), if $K_{roz} = 1.4300$ EUR/USD
Source: Own work.

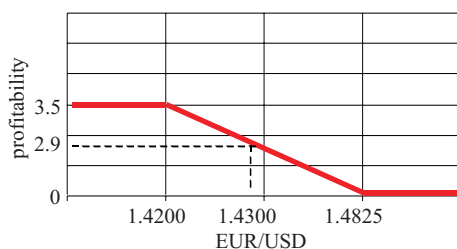


Fig. 4. Disbursement profile for the investor (3000 ÷ 24 500 USD), if $K_{roz} = 1.4300$ EUR/USD
Source: Own work.

Situation II

Settlement exchange rate is lower than the minimum rate

$$K_{roz} < K_{min}$$

$$K_{roz} = 1.4180 \text{ EUR/USD}$$

Table 5
Development of profitability depending on the capital amount of the investment (SCD) in situation II

Investment amount in USD	SCD profitability on instrument maturity data (%)	Maximum profitability of the investment guaranteed by the bank (%)	Actual profitability (%)
50 000 >	$(1.4825 - 1.4180) \times 58.65\% \times 360/182 = \mathbf{7.5}$	7.2	7.2
25 000 ÷ 49 500	$(1.4825 - 1.4180) \times 44.49\% \times 360/182 = \mathbf{5.7}$	5.5	5.5
3 000 ÷ 24 500	$(1.4825 - 1.4180) \times 28.32\% \times 360/182 = \mathbf{3.6}$	3.5	3.5

Source: Own work.

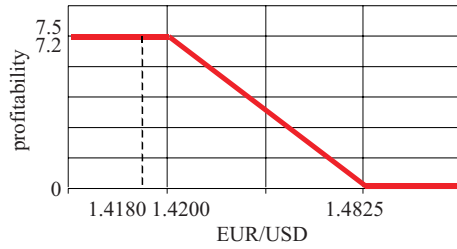


Fig. 5. Disbursement profile for the investor (>50 000 USD) if $K_{roz} = 1.4180$ EUR/USD
Source: Own work.

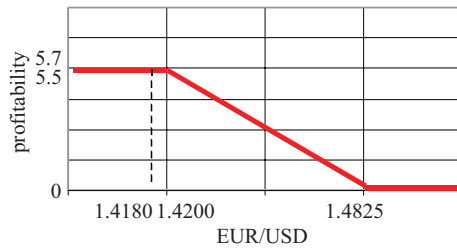


Fig. 6. Disbursement profile for the investor (25 000 ÷ 49 500 USD), if $K_{roz} = 1.4180$ EUR/USD
Source: Own work.

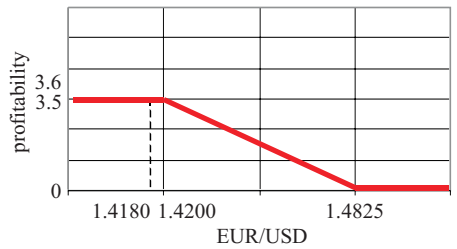


Fig. 7. Disbursement profile for the investor (3000 ÷ 24 500 USD), if $K_{roz} = 1.4180$ EUR/USD
Source: Own work.

Situation III

Settlement exchange rate is higher than the reference rate

$$K_{roz} > K_{od}$$

$$K_{roz} = 1.4900 \text{ EUR/USD}$$

Table 6

Development of profitability depending on the capital amount of the investment (SCD) in situation III

Investment amount in USD	SCD profitability on instrument maturity data (%)	Maximum profitability of the investment guaranteed by the bank (%)	Actual profitability (%)
50 000 >	$(1.4825 - 1.4900) \times 58.65\% \times 360/182 = -0.9$	7.2	0
25 000 ÷ 49 500	$(1.4825 - 1.4900) \times 44.49\% \times 360/182 = -0.7$	5.5	0
3 000 ÷ 24 500	$(1.4825 - 1.4900) \times 28.32\% \times 360/182 = -0.4$	3.5	0

Source: Own work.

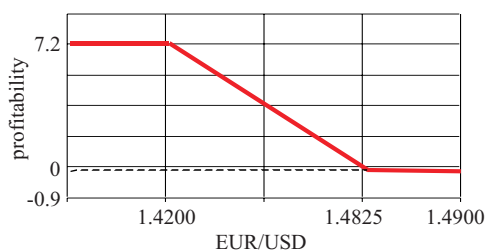


Fig. 8. Disbursement profile for the investor (>50 000 USD), if $K_{roz} = 1.4900$ EUR/USD
Source: Own work.

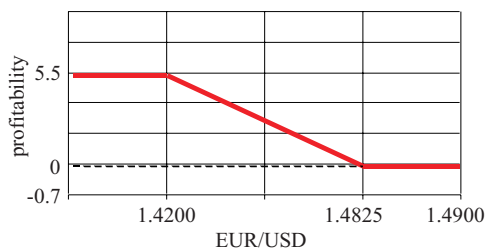


Fig. 9. Disbursement profile for the investor (25 000 ÷ 49 500 USD), if $K_{roz} = 1.4900$ EUR/USD
Source: Own work.

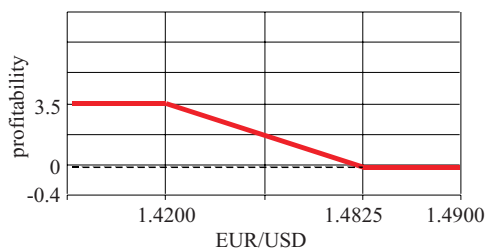


Fig. 10. Disbursement profile for the investor (3000 ÷ 24 500 USD), if $K_{roz} = 1.4900$ EUR/USD
Source: Own work.

On the basis of the development of reference exchange rate and settlement exchange rate on the date of maturity of the structured financial instrument it can be concluded that the investor will achieve the maximum profitability in situations I and II. In the first situation, when the settlement rate is higher than the reference rate but lower than the minimum rate, the investor will be able to achieve actual profitability at the level (depending on the value of investment amount) equal to: 6.1/4.6/2.9% respectively. In the second situation, when the value of settlement rate is lower than the value of the minimum rate the investor will be able to achieve the maximum value of interest stipulated in the agreement. In case of this scenario the actual profitability for the investor will be: 7.2/5.5/3.5% respectively. In case of the third situation, when the settlement rate is higher than the reference rate the investor will not achieve the positive rate of return, but he will receive 100% reimbursement of capital invested.

Conclusion

In taking the investment decisions by people intending to invest their money in financial instruments including structured certificates of deposit available in the financial market attention should be paid to the current situation and market standing. Variability in prices of financial and commodity instruments, currency exchange rates and lack of stability of market exchange rates and other factors characterize the financial market. That is why taking an investment decision by the investor should result from the current economic situation in the financial market.

Summarizing the considerations presented so far it should be concluded that structured certificates of deposit are an alternative product to the classic bank deposit offered by the banks in the financial market. Those are instruments that offer the potential investors the opportunity of involvement in the financial markets as well as commodity markets while guaranteeing reimbursement of capital invested. Clients deciding to purchase such certificates should realize that the bank, besides guaranteeing reimbursement of capital invested, does not offer any guarantee of additional profit, which depends on the development of indexes in the market. On the other hand that type of investment allows limiting the risk of loss of the capital. Considering the benefits offered by the structured certificates of deposit an increased rate of development of the market for such instruments in Poland should be expected.

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CONDITIONS AND SCALE OF ECOLOGICAL FOOD CONSUMPTION

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Key words: ecological food, expenditures on ecological food, place of purchase of ecological food, consumption of ecological food.

Abstract

The study covered households located in different parts of the country in which ecological food is consumed. The subject of study was, first of all, consumption of certified ecological food. The scale of expenditures on ecological food including the type structure of food products was analyzed. Indifferent of the level of expenditures on ecological food, those covered by the study consumed mainly products of vegetable origin as they are available and their range is more extensive. The interest in purchasing ecological food in supermarkets also increases and, as a consequence, in the future supermarkets can become one of the major places of trading in ecological food.

UWARUNKOWANIA I SKALA KONSUMPCJI ŻYWNOŚCI EKOLOGICZNEJ

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Słowa kluczowe: żywność ekologiczna, wydatki na żywność ekologiczną, miejsce zakupu żywności ekologicznej, spożycie żywności ekologicznej.

Abstract

Badaniami objęto gospodarstwa domowe znajdujące się w różnych częściach kraju, w których konsumuje się żywność ekologiczną. Przedmiotem badań było spożycie certyfikowanej żywności ekologicznej. Przeanalizowano skalę wydatków na żywność ekologiczną, uwzględniając strukturę rodzajową produktów żywnościowych. Niezależnie od poziomu wydatków na żywność ekologiczną badani głównie spożywają produkty pochodzenia roślinnego, gdyż są one dostępne w większym asortymencie. Wzrasta również zainteresowanie żywnością ekologiczną w supermarketach, dlatego te placówki w przyszłości mogą stać się głównym miejscem handlu żywnością ekologiczną.

Introduction

The notion of food is sometimes treated in separation from the natural sources of its origin. Purchasing a product the consumer usually does not associate it with the natural environment. As a consequence, very often, he does not know what he actually eats and that lack of knowledge facilitates marketing artificial and highly processed food by the food manufacturers.

Increasing public awareness develops consumer attitudes and behaviors and persuading them that choosing environment-friendly products could help in solving many environment problems and at the same time cause consumption of healthy, high quality food. It is expected that ecological food can become the food of the future because civilization phenomena are increasingly dangerous to humans and human health.

Ecological food is the food originating from ecological farms where agricultural chemistry is not applied. It is produced in the areas of low environment pollution. Its production requires strictly defined and controlled principles on the basis of which the appropriate product marks are awarded.

The dynamic development of international biological food marker revealed the need of wider than national legal frameworks governing production, control and marking of food produced by ecological methods. In the European Union the Council Regulation (EEC) No 2092/91 on organic production of agricultural products and indications referring thereto in agricultural products and foodstuffs is the most important document. That Regulation governs the four major areas: it sets technical requirements (production criteria), control requirements (control system structure and control procedure), principles of marking of products and conditions of imports.

The notion of ecological food should not be associated with the production aspect only but it should also cover processing, storage, packaging, transport, distribution and trade.

Product label that contains product name, certificate number, producer's address and symbol of one of the certifying bodies is the guaranty that the product was produced by ecological methods.

The increasing demand for ecological food contributed not only to development of ecological farms but also to appearance of dishonest competition.

As indicated by KOŁOŻYN-KRAJEWSKA and SIKORA (1998) marking of products with names "ecological food", "biological food" or "organic food" is possible only when they were produced in farms or processing plants that are certified and controlled.

In highly developed countries an increase in consumption of ecological food can be observed and a similar trans can also be expected in Poland. However, there are still barriers to consumption of that type of food as presented by

GRZYBOWSKA (2003). Such barriers include limited availability of such products, higher prices of ecological as compared to conventional food, lack of full substitution with the conventional products range in the offer as while the range of ecological food of vegetable origin is quite rich as concerns both fresh and dry products, the offer of products of animal origin remains relatively limited.

During the recent years, the food market has been subject to significant segmentation, which is related to different buyer expectations. While there are customers who appreciate ease of preparation of the meals and availability of products on one hand, there are also people choosing environment friendly products that offer them and their families healthy and high quality food on the other. People taking care of their health start opting for products originating from ecological agriculture increasingly frequently.

In Poland that market is at the initial stage of its development. Still some certified products are sold as conventional while the majority of ecological farms produce for their own needs or possess a fixed group of buyers for their products. Production of that type of food in Poland has short tradition while the level of ecological awareness of an average Pole is, unfortunately, relatively low as compared to consumers from highly industrialized countries. The fast increasing demand for ecological foods in global markets offers a chance for its growth also in Poland. As a consequence acquiring knowledge on conditions of demand for such products is of high importance.

The study aimed at determining the level and structure of ecological food consumption in Poland. The study took into account the thesis that ecological food consumers purchase mainly products of vegetable origin while ecological food shops are the sales outlets preferred by the consumers of ecological food.

Methodology of study

The subject of the study was, first of all, the consumption of certified ecological food. The empirical study concerning ecological food consumption was conducted in three selected geographic areas of Poland differing in the environment quality: 1) southern Poland: Kraków, Katowice and surroundings, 2) central Poland – Warsaw and surroundings, and 3) north Poland – Tricity, Olsztyn, Łomża and surroundings. Those geographic areas were selected for the study, as they are the main areas of ecological food consumption in Poland as indicated in the studies by GRYKIEŃ (1997) and ZYSNARSKA (1997).

The studies were conducted in supermarkets, food stores offering in their range of products certified ecological food and specialty shops specializing in ecological food.

The source materials were collected through direct standardized interviews using a detailed interview questionnaire. The interviews were conducted mainly with people purchasing food for the family. In total 352 interviews were conducted of which 332 were accepted for analysis following contents verification.

Three modules were separated in the questionnaire design. The first one allowed identification of people who declared that they had not encountered the term “ecological food” or understood the term wrongly as it was considered that as a consequence they were not aware of existence of such food. The second module allowed identification of people able to identify ecological food but did not consume it or stopped consuming it.

The widest interviews covered the respondents who stated that they were not only aware of what ecological food was but also were consumers of such food. They were the targets of the extensive third module of the questionnaire. The scope of questions in that, basic part of the questionnaire concerned extensive information on type and quantity of ecological food consumed, methods of its identification, places and frequencies of purchase, valued attributes (health, nutritive, organoleptic, commercial, environment protection) and price perception of such products. That last aspect is important, as ecological food is clearly more expensive comparing to conventional food.

The studies were conducted in November 2005. The analysis finally covered 332 households including 142 consuming ecological food.

The analysis was based in particular on grouping the covered population of households according to the level of consumption, income level, social and demographic characteristics, place and frequency of purchases.

The analysis of consumption scale and structure was based on value approach. To allow covering the scale of consumption of all products their average prices in 2005 were used. Aiming at determining the values of year average ecological food consumption in respondent households (PLN/person year) the following levels of expenditures on such food were assumed: low (up to PLN 400), medium (PLN 401 – 650) and high (over PLN 650).

Results of study

Level and structure of ecological food consumption among the respondents

Among the respondent households consuming ecological food the year average expenditures on such food amounted PLN 718.82 (Tab. 1).

In the analysis of types of expenditures on ecological food around 100% more was spent by consumers on products of vegetable origin – PLN 456.01,

representing over 63% of total expenditures. This could indicate a wider range of ecological food of vegetable origin as compared to products of animal origin, where the expenditures on products of that type reached the level of PLN 240.50 per person per year. The studies confirm that the range of products of animal origin is not too wide and, as a consequence, the expenditures on that type of food are not too high (Tab. 1).

Considering the assumed levels of ecological food consumption, the expenditures on cereal products dominated among the products purchased by the respondents. Among the vegetable products, indifferent of the consumption value level, the vegetables (particularly fresh ones), cereal products, potatoes and fruit (particularly fresh fruit) dominated. Among the animal products cow milk and cow milk products, eggs and meat were the most important ones (Tab. 1).

Expenditures at the level of up to PLN 400 per person per year during the period covered were incurred for products of vegetable origin – cereal products, such as bread, other types of bakery products, flour, pastas and bran of various cereals. On the other hand the lowest expenditures were incurred by the respondents on purchase of goat milk and its products as well as soy and lentil.

In case of (PLN 401–650) level of year expenditures per person on ecological food, vegetable products, including cereal products, potatoes, vegetables and fruit had the highest share at PLN 283.36.

Table 1
Expenditures on ecological products in the population covered (PLN/person year)

Item	Total	Consumption level		
		low (up to PLN 400)	medium (PLN 401–650)	high (over PLN 650)
I. Products of vegetable origin	456.01	163.82	283.36	563.34
II. Products of animal origin	240.50	82.19	167.20	350.84
III. Other products	22.31	0.00	5.55	43.26
IV. Overall average level of expenditures on consumption in the population	718.82	246.01	455.91	957.45
Structure of respondents	100%	35.8%	31.7 %	32.5%

Source: Own work based on studies.

The consumers covered consumed mainly ecological vegetable products, indifferent of the level of consumption. A definitely lower percentage of the respondents consumed ecological animal products, although consumption of such products increases.

With the increase of spending on ecological food in total the decrease in the share of vegetable products in consumption structure is observed. Respondents with higher levels of spending increased the levels of purchases of animal origin products and products such as honey, soy or lentils.

The data presented by GRZYBOWSKA and PILARSKI (2002) indicate that in 2000 the average year expenditures per person amounted PLN 180.10 that is almost five times less. It was also shown that the consumers covered spent around 69% of their money on products of vegetable origin.

Place of ecological food purchase

In 2005, shops with ecological food were the dominating outlet for purchase of ecological food as indicated by 53% of the respondents spending around 43% of the total estimated funds in such shops (Fig. 1).

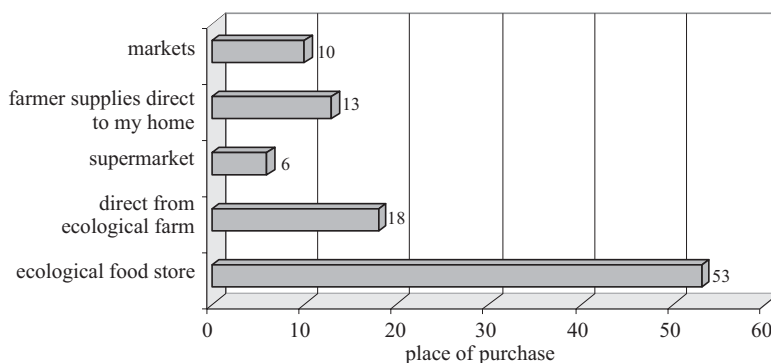


Fig. 1. Places of ecological products purchase according to the respondents (in %) Source: Own work based on studies.

In case of 18% of the respondents it is popular to purchase ecological products directly at the farm while in case of 13% of the respondents the farmer delivers orders to their homes. Through those outlets the respondents channel around 43% of the expenditures they declare for those products (Fig. 2). A very small group of the respondents, around 6%, purchases ecological food from supermarkets and there they channel around 4% of their overall expenditures.

The structure of expenditures on ecological food depends on the place of purchasing such food. Products of animal origin are purchased mainly directly from the producer where around 41% of the spending is channeled or at the shops with ecological food where around 39% of spending is channeled. At the supermarkets the respondents buy mainly the food of vegetable origin.

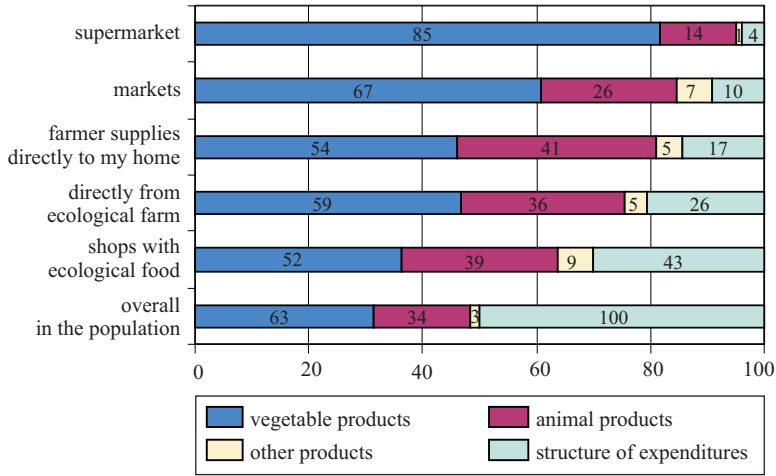


Fig. 2. Structure of expenditures on ecological food considering the place of purchase of such products (in %)

Source: Own work based on studies.

Results of studies indicate that ecological food shops still remain the dominating outlets for purchasing ecological food. Nevertheless, it is worth to expand the range of products available at supermarkets as a consequence of which ecological food will become easier to access for the average consumer.

Availability of products determines to a high extent the development of ecological agriculture. That was noticed by farmers in other countries and as a consequence they embark on initiatives streamlining the sales. As presented by JASKA (1998), one of the methods is establishing a producer group offering the possibility of making contracts for supply of the entire range of “bio” quality products and for supply of larger volumes of products meeting specified standards. It also facilitates securing continuity of supplies and winning permanent clients. Cooperation of that kind allows obtaining higher prices than those that can be negotiated by an individual farmer. Another advantage of producer groups is the possibility of joint advertising and promotion of ecological food, which allows reaching a wider group of consumers.

During the development of the market for ecological agriculture products two basis types of ecological agriculture products’ sales channels have been established. ŻAKOWSKA-BIEMAS and GUTOWSKA (2003) point at the forms of trade linked directly to the movement of ecological farming, i.e. direct sales from farms, shops specializing in sales of ecological food, so-called specialty stores, supermarkets with domination of “eco” product ranges and conventional sales channels with specialty stores, e.g. bakers with the “eco” range and conventional supermarkets.

Direct sale was the dominating distribution method and a way of obtaining revenues for many farms, particularly the small ones. It is also the best-established form of trading in such food. Delivery of ecological products to homes is also spreading. Clients are supplied with products in the form of both weekly deliveries and stocks for the winter.

Organization of ecological receptions, e.g. during conferences, has also become a method for selling products of ecological agriculture. Additionally, ecological farms have been involved in agritourism activities, which is also a source of complementary income.

Organization of sales during which the producer-farmer can be met and talked with is also a very good way of selling ecological products. It offers opportunities for persuading undecided potential customers to the producer's products.

During the recent years important transformations in the structure of sales organization have been observed. In the EU countries large area shops (supermarkets and hypermarkets) have become the dominating form of sales. Retail trade in food products in the majority of Western Europe countries had been subject to transformation mainly as a consequence of the dynamic development of sales networks offering a wide range of food products. It is noticed that with the development of large scale sales systems in the countries of Western Europe the range of products offered by such outlets was expanded by convenience food, functional food and, first of all, ecological food.

In Poland ecological products are also available at shelves of supermarkets and hypermarkets. They go there direct from farmers or through wholesalers. This form of sales, however, requires not only knowledge of the market but also efficiency of the suppliers.

In case of consumers purchasing ecological products from large multiples the environmental conditions are considered the least important as compared to the consumers purchasing at specialty stores selling ecological products.

The share of ecological agriculture products in the product range of supermarkets represents just a few percent while in the specialty stores it ranges from several to several tens percent. Currently an expansion of the ecological food products' range at large retail networks can be noticed.

MACIEJCZAK (1999) presents the structure of distribution channels in Western Europe indicating that the importance of supermarkets offering products of ecological agriculture is increasing significantly. They contribute to development of agricultural-food sector, change in consumer behaviors, increase in competitiveness in the market and market focus of the production.

In Poland the interest of trade outlets of that type in trading in ecological food is small. The reasons for that are: low supply of ecological products, absence of organized network of producers and suppliers as well as processors

and, as a consequence, difficulties in securing continuity of sales. Not without importance is also poor identification of demand for ecological food among customers of supermarkets.

The demand for ecological food increases but its distribution must still pass through many channels before reaching the ultimate consumers. Today those channels are insufficient. Also the information on where the product can be available and how to understand the label on the product provided to consumers is inappropriate. As a consequence, larger scale production and consumption will not develop until the distribution system is properly developed.

ARDANOWSKI (2004) indicates that immense opportunities for Poland are offered by opening to the consumer market of over four hundred million people in the European Union resulting from the accession to it. It is also important that the European consumers are more affluent than our domestic consumers. During the recent years also a positive trend of fashion for “healthy” food, and a kind of snobbery related to it have been observed. That fashion results partly from changes in lifestyles and eating habits of the European society referring health and everything supportive to it.

Development of ecological food market requires coordinating activities in legal regulation and organization, political and marketing, stimulating the supply of and the demand for products of ecological agriculture. Among those activities an important role should be played by the system of control and communication concerning certified products involving also design of the appropriate logo. Introduction of the logo for ecological food is an important measure allowing the consumers easier identification of that type of food products and building confidence in products of ecological agriculture.

Summary and conclusions

Polish market of ecological food is characterized by slow but systematic increase in the number of ecological farms. Poland also offers very good natural and social conditions for development of ecological agriculture. The dominating share of family farms, usually involved in universal production, which could be very easily converted to farms producing food by ecological methods, is an important factor supportive for development of ecological agriculture. Development of ecological agriculture in Poland is also supported by low levels of natural environment pollution, large area of protected areas, low levels of application of chemical yield generating media, multidirectional nature of production in peasant farms and large resources of available and relatively cheap labor in agriculture.

The share of ecological products in the Polish market is very small, they represent only 0,06% of the total area under crops. Some certified products are still sold as conventional while owners of shops are searching for permanent suppliers of interesting products such as fresh vegetables and fruit, dairy products and bread. The range of ecological products in Polish shops covers around 200–300 items while in Germany 2000–3000 items.

In the contemporary world people pay more and more attention to what they eat as they realize that the food consumption has major influence on their health. Ecological food is winning an increasing share in the food market.

The studies conducted allow formulating the following conclusions:

1. Independent of the level of expenditures on ecological food the respondents consumed mainly products of vegetable origin as they are available and a wider range of such products is offered. The structure of expenditures is influenced by the place of shopping for ecological food. The respondents spend the most, 41% of funds for products of animal origin if a farmer delivers products directly to the consumer's home and the least, ca. 14%, when they purchase food at supermarkets.

2. As indicated by the study, the ecological food store and direct sales from the farm, at the local market or through the system of deliveries to consumers are important channels for purchase of ecological food. Availability of products of ecological agriculture at supermarkets is marginal, which limits the increase of the scale of demand for that type of products.

3. Opportunities for development of ecological food market should be sought through expanding the range of ecological products, in particular, the availability of products of animal origin should be improved and the range of ecological food products should be expanded.

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LEVEL OF CUSTOMER SATISFACTION WITH THE PURCHASED INSURANCE SERVICE

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Key words: insurance, insurance service, customer satisfaction level.

Abstract

Insurance companies in the same way as other service enterprises, should focus in their activities mainly on identification of customer expectations and next on supplying them the products that would satisfy them fully.

In case of insurance companies customer satisfaction can be generated at the stage of providing services to the customer (satisfaction with the distribution channel) and product that the customer has purchased (satisfaction with the insurance service purchased). This paper aims at presenting the dependences occurring between the level of satisfaction with the insurance service and the gender, age, place of residence, level of education, income and expenditures on insurance of the respondents.

POZIOM ZADOWOLENIA KLIENTÓW Z NABYTEJ USŁUGI UBEZPIECZENIOWEJ

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Słowa kluczowe: ubezpieczenia, usługa ubezpieczeniowa, poziom zadowolenia klientów.

Abstract

Towarzystwa ubezpieczeń, jak inne przedsiębiorstwa usługowe, w swoich działaniach powinny skupić się głównie na identyfikacji oczekiwań klientów, a następnie na dostarczeniu im produktów, które będą ich w pełni satysfakcjonowały.

W przypadku zakładów ubezpieczeń satysfakcja klientów może powstawać na etapie dostarczenia konsumentowi usługi (zadowolenie z kanału dystrybucji), a także z produktu, który zakupił (zadowolenie z nabytej usługi ubezpieczeniowej). Celem artykułu jest wskazanie zależności, jakie występują między poziomem zadowolenia z usługi ubezpieczeniowej a płcią, wiekiem badanych osób, miejscem zamieszkania, wykształceniem, dochodami i wydatkami na ubezpieczenia.

Introduction

Competition in the Polish property insurance market is assuming the characteristics of more qualitative than quantitative competition as a result of implementing new products, better customer service and more efficient liquidation of damages and focus on the individual client (LERCHER 2005, p. 23). Insurance products should be treated as a special, particularly precious and at the same time expensive goods (DEMBOWSKI 2000, p. 71) as their main task is to protect our life and property. The taking of a decision should be based on conscious choice after considering all the factors. Customer expectations experienced prior to making the purchase and his earlier experiences can have a meaningful influence on the level of satisfaction. That is why it is important that the companies should understand in which way the customers take their purchase decisions (HILL, ALEXANDER 2003, p. 89).

Customer satisfaction can be defined and expanded by other important elements considering specifics of the market to which they apply, e.g. in the insurance services sector they are defined as the look of the customer on the received comprehensive service (customer service quality, insurance protection and possible disbursement of benefit or damages).

The possibility of converting a customer into a loyal customer is the direct benefit from possessing a satisfied customer. The strong relation between customer loyalty and his satisfaction develops at the moment when during the first contact with a given enterprise the customer is satisfied with the service received. If customer loyalty increases by 5% it can bring, depending on the industry sector, an increase of revenue by from 25% to 85% (HILL, ALEXANDER 2003, p. 38). Loyal customers are much less susceptible to activities of the competitors. The sources of benefits from retaining a customer are: multiple purchases, recommending the company to others and lower price sensitivity. Satisfied customers are the cheapest and the most effective form of company advertising.

Enterprise successful in the market knows its customers, knows who they are, what their expectations are and what they think about their products and service provided. Continuous improvement of the customer approach by the enterprise, fast reaction to customer needs and collecting data that would allow assessing changing needs and expectations of the customers play an important role (THOMAS, <http://www.isixsigma.com/library/content/c050328a.asp>).

Undertaking initiatives focused on customer satisfaction strengthening can be achieved through continuous improvement of the methods of initiating contacts with insurance companies' clients, improvement of services provided and processes. Possessing customers who exchange positive opinions about the insurance company in their environment, purchase its products, establish

relations with it and stay with it during poor market periods is a large achievement for an insurance company. Possessing satisfied customers who are emotionally tied to the insurance company leads to establishing loyalty on the side of the buyers (CZUBA 2004, p. 21).

Maintaining continuous satisfaction and contentment of customers offers the company numerous benefits such as: the costs of retaining the customer are much lower than the costs of winning a new one; a satisfied customer is the one who buys more and is loyal to "his" company, passes positive comments about it and pays less attention to activities of competitors. Dissatisfied customer represents negative advertising for the company, as it is hard to change his negative opinion. That is why an important role is played by efforts of the company aiming not only at satisfying the customer needs but also at transforming the customers into systematic and loyal buyers.

Goal of the paper, methodology

The paper aims at identifying the level of satisfaction of customers from Warmia and Mazury voivodship with insurance service purchased.

The studies were carried out in 2006 using the questionnaire-based method. It encompasses 388 customers of insurance companies, department II, offering property and other personal insurance products in Warmia and Mazury voivodship. The level of customer satisfaction with the acquired insurance service was analyzed.

The collected results of questionnaire-based study were subjected to statistical processing. The questionnaire contained closed and open questions – considering the type of possible answers they were treated as immeasurable characteristics. They were characterized by creating distributions of numbers – the percentage of respondents selecting a specific option of the answer. Studies of differences between such distributions were carried by applying non-parametric tests. The χ^2 test that serves verification of hypotheses concerning absence of differences between distributions of a certain characteristic in two populations as well as verification of the hypothesis on independence of two non-measurable characteristics is one of them (STANISZ 1998, pp. 221–262, GREŃ 1976, pp. 114–138, STECZKOWSKI 1995, p. 41).

The value of statistics was computed according to the formula (MALARSKA 2005, pp. 76–77):

$$\chi^2 = \sum_{j=1}^k \sum_{i=1}^r \frac{(n_{ij} - \hat{n}_{ij})^2}{\hat{n}_{ij}} \sum_{j=1}^k \sum_{i=1}^r \left(\frac{n_{ij}^2}{\hat{n}_{ij}} \right) - n$$

where:

n_{ij} – number of elements in the sample,

\hat{n}_{ij} – theoretical numbers,

k – number of columns in the independence matrix,

r – number of rows in the independence matrix.

The obtained results of statistical analysis are presented in tables. Statistical computations and presentation of the results were carried out using Excel, Statistica PL and SPSS computer software.

Results of empirical study

The questionnaire was completed by 388 respondents. In the selected population the distribution by gender was as follows: 46% women and 54% men. The majority of insurance companies; customers are young people – almost a half of the respondents (44%) belonged to the 20 to 30 years age group. A large share in the population covered was also that of the 30 to 40 years age group – 30%.

High level of education is a characteristic feature of that population – 36% of the respondents possessed tertiary and 52% secondary education. People with vocational and elementary education represented 12% of the covered population. The majority of the respondents were residents in towns with from 10.000 to 50.000 residents – 34%.

The respondent clients most frequently used services of: PZU S.A. – 40.7%, TUiR Warta S.A. – 10.7%, Concordia Polska TUW – 10.3, TU Allianz Polska S.A. – 10.1%, STU Ergo Hestia S.A. – 7.3%, Generali TU S.A. – 6.3% and PTU S.A. – 6.1%. The remaining customers (8.5%) purchase insurance from TUW TUW, Uniqa TU S.A. and TU Inter Polska S.A.

The respondents in most cases specified the agent and multiple agent as the insurance intermediary through whom they purchased the insurance services – 69% of customers covered; 20% of customers purchased the insurance directly at the insurance companies from full-time employees, 4% used broker services, 3% purchased insurance from a bank while 2% purchased them via the Internet and 2% by telephone (Fig. 1).

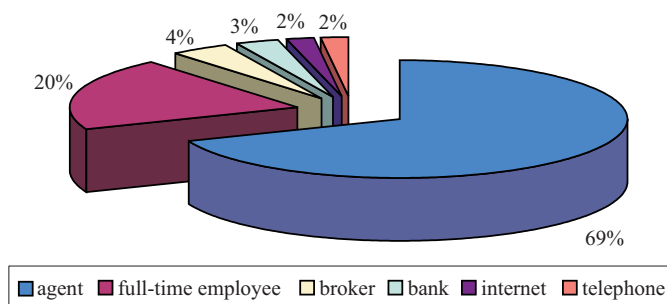


Fig. 1. Use of individual distribution channels by customers in Warmia and Mazury voivodship
Source: Own work based on the conducted studies.

Level of customer satisfaction with the purchased insurance service

Asking customers the question concerning the level of satisfaction with the purchased insurance according to the point scale from 1 to 5, where 1 represented dissatisfied and 5 highly satisfied, the majority, as high as 48% of the respondents were satisfied with the insurance purchased and 24% highly satisfied with it (Fig. 2).

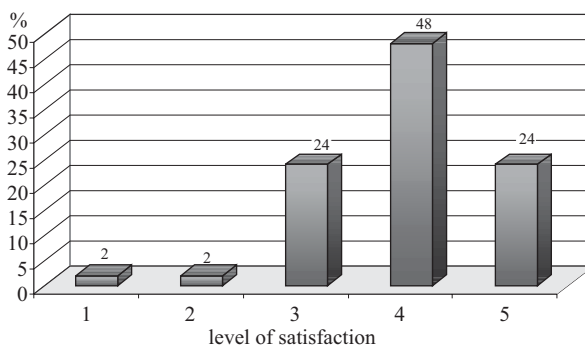


Figure 2. Level of customer satisfaction with the insurance purchased: where: 1 means dissatisfied, 2 – low satisfaction, 3 – medium satisfaction, 4 – satisfied, 5 – highly satisfied
Source: Own work based on the conducted studies.

Among the respondents 83% of women and 70% of men (Tab. 1) were satisfied and highly satisfied with the insurance purchased while only around 4% of men believed that the insurance purchased did not satisfy their needs fully. 100% of respondents aged 50 to 60 years were satisfied and highly

satisfied with the insurance service while in the other age groups the majority of customers were satisfied. In case of Poland the criteria of insurance companies customers; segmentation are their income and age (CZUBA 2005, p. 21). The most dissatisfied group were people aged 20 to 30 years (ca. 5% of respondents were dissatisfied with the service purchased). The conducted χ^2 test also showed existence of statistically significant dependence¹ between the gender and age of the respondents.

Table 1
Level of customer satisfaction with chosen insurance depending on gender and age

Satisfaction level	Gender				Age											
	Woman		Man		0-20		20-30		30-40		40-50		50-60		over 60	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1.	0	0.00	8	3.86	0	0.00	8	4.85	0	0.00	0	0.00	0	0.00	0	0.00
2.	0	0.00	8	3.86	0	0.00	8	4.85	0	0.00	0	0.00	0	0.00	0	0.00
3.	24	13.26	68	32.85	0	0.00	16	9.70	68	58.62	8	14.81	0	0.00	0	0.00
4.	101	55.80	84	40.58	22	100.00	86	52.12	24	20.69	30	55.56	16	66.67	7	100.00
5.	56	30.94	39	18.84	0	0.00	47	28.48	24	20.69	16	29.63	8	33.33	0	0.00
Total	181	100.00	207	100.00	22	100.00	165	100.00	116	100.00	54	100.00	24	100.00	7	100.00
chi-square	$\chi^2 = 40.085$ $df = 4 p = 0.000$				$\chi^2 = 157.064 df = 20 p = 0.000$											

Source: Own work based on the conducted studies.

Education has significant influence on the level of satisfaction experienced by the customer with the insurance purchased. The conducted χ^2 test showed that there is a statistically significant correlation between the satisfaction level and education of respondents. The largest proportion of dissatisfied and low satisfied customers was found among respondents with secondary education (in total 8% of respondents in that group). Customers with elementary education (in total 100% of the respondents in that group) and tertiary education (in total 73% of respondents in that group) were the customers who were satisfied or highly satisfied with the choice of service they made (Tab. 2).

Analyzing the correlation between the level of satisfaction with insurance service and the level of generated income (Tab. 3) it should be concluded that 100% of respondents with income exceeding PLN 10 000 were satisfied with the insurance. The most satisfied customers were those with the income from PLN 1001 to PLN 2000. The largest number of those dissatisfied was among the people with income not exceeding PLN 500 per month. 100% of respon-

¹ It is assumed that the correlation is statistically significant when the value of that probability is lower than 0,05. See: Górniak, Wachnicki, 2004, pp. 177-178.

Table 2

Level of customer satisfaction with chosen insurance depending on education

Satisfaction level	Education							
	elementary		vocational		secondary		tertiary	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1.	0	0.00	0	0.00	8	4.04	0	0.00
2.	0	0.00	0	0.00	8	4.04	0	0.00
3.	0	0.00	22	61.11	32	16.16	38	27.14
4.	7	50.00	14	38.89	110	55.56	54	38.57
5.	7	50.00	0	0.00	40	20.20	48	34.29
Total	14	100.00	36	100.00	198	100.00	140	100.00
chi-square	$\chi^2 = 70.488$ $df = 12$ $p = 0.000$							

Source: Own work based on the conducted studies.

Table 3

Level of customer satisfaction with chosen insurance depending on monthly income (in PLN)

Satisfaction level	Income (PLN)													
	do 500		501–1000		1001–2000		2001–3000		3001–5000		5001–10000		over 10000	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1.	0	0.00	8	9.41	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2.	0	0.00	8	9.41	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3.	0	0.00	31	36.47	24	17.91	0	0.00	29	64.44	8	50.00	0	0.00
4.	16	100.00	23	27.06	62	46.27	68	80.95	8	17.78	0	0.00	8	100.00
5.	0	0.00	15	17.65	48	35.82	16	19.05	8	17.78	8	50.00	0	0.00
Total	16	100.00	85	100.00	134	100.00	84	100.00	45	100.00	16	100.00	8	100.00
chi-square	$\chi^2 = 204.147$ $df = 24$ $p = 0.000$													

Source: Own work based on the conducted studies.

dents spending from PLN 601 to PLN 1000 per year on insurance were satisfied with the insurance purchased while 88% of respondents spending PLN 1501 to PLN 2000 per year on insurance were satisfied or highly satisfied. What is interesting, customers spending from PLN 2001 to PLN 3000 per year on insurance belong to the group that was most dissatisfied with the service purchased (Tab. 4). The χ^2 test confirmed the existing correlation between the level of satisfaction and the income of respondents.

Place of residence has important influence on the level of satisfaction with insurance purchased (that correlation was confirmed by the conducted χ^2 test). People living in rural areas form the group with medium or low satisfaction (Tab. 5) while the highest level of satisfaction was presented by residents in towns with over 200 000 residents.

Table 4
Level of customer satisfaction with chosen insurance depending on the amounts spent on insurance

Satisfaction level	Expenditure (PLN)													
	0-100		101-300		301-600		601-1000		1001-1500		1501-2000		2001-3000	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1.	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	8	21.05
2.	0	0.00	0	0.00	0	0.00	0	0.00	8	7.77	0	0.00	0	0.00
3.	0	0.00	14	26.92	31	28.18	0	0.00	32	31.07	7	11.48	8	21.05
4.	8	100.00	30	57.69	47	42.73	16	100.00	39	37.86	23	37.70	22	57.89
5.	0	0.00	8	15.38	32	29.09	0	0.00	24	23.30	31	50.82	0	0.00
Total	8	100.00	52	100.00	110	100.00	16	100.00	103	100.00	61	100.00	38	100.00
chi-square	$\chi^2 = 163.834$ $df = 24$ $p = 0.000$													

Source: Own work based on the conducted studies.

Table 5
Level of customer satisfaction with chosen insurance depending on place of residence

Satisfaction level	Place of residence (in K)											
	rural area		Town									
			up to 10		10-50		50-100		100-200		over 200	
	n	%	n	%	n	%	n	%	n	%	n	%
1.	0	0.00	0	0.00	0	0.00	0	0.00	8	10.26	0	0.00
2.	8	8.33	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3.	32	33.33	0	0.00	44	34.38	8	33.33	8	10.26	0	0.00
4.	56	58.33	8	33.33	37	28.91	16	66.67	38	48.72	30	78.95
5.	0	0.00	16	66.67	47	36.72	0	0.00	24	30.77	8	21.05
Total	96	100.00	24	100.00	128	100.00	24	100.00	78	100.00	38	100.00
chi-square	$\chi^2 = 166.104$ $df = 20$ $p = 0.000$											

Source: Own work based on the conducted studies.

Projected directions of changes in customer satisfaction factors

Among the covered population of the residents in Warmia and Mazury voivodship 46% declared that during the last five years they changed the insurance distribution channel. The main reasons for that situation were lack of satisfaction with the insurance purchase method (59%), price (21%), quality of services provided (12%) and liquidation or termination of service by the intermediary (8%).

Answering the question concerning actions that the insurance company could undertake to increase satisfaction of its customers the most frequent answers selected by the respondents were (Fig. 3): quality improvement (36%), offering discounts and bonuses (27%), increasing the range of products and improvement of complaints processing service quality (14% each).

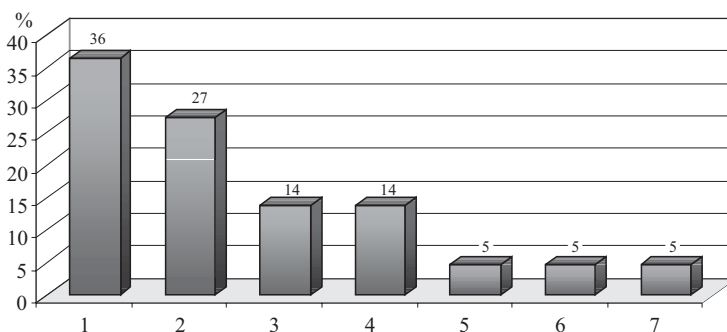


Fig. 3. Actions that the insurance company should initiate to increase the customer satisfaction level: 1 – improve quality, 2 – provide discounts and bonuses, 3 – expand the product range, 4 – improve complaints processing service level, 5 – decrease insurance products; price, 6 – improve damage liquidation services quality, 7 – improve post-sale service

Source: Own work based on the conducted studies.

Summary and conclusions

It should be remembered that wherever there is a relation of business nature the issue of customer satisfaction level appears. The necessity of taking care of high level of customer satisfaction is becoming a classic marketing tool under circumstances where innovative and effective actions are increasingly difficult to find. In case of insurance, an important role, in addition to end buyer satisfaction, is played by satisfaction of trade intermediaries, who have major influence on overall satisfaction of customers using insurance company services.

The conducted studies confirm that there is a statistically confirmed correlation between the satisfaction level and gender, age, education, income and expenditures of the customer allocated for purchase of insurance service.

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PACKAGE PREFERENCES OF LIQUID DAIRY PRODUCTS BUYERS

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Key words: preferences, packages, package characteristics, dairy products.

Abstract

Contemporary packages evolve continually. In the old days the packages were to secure, first of all, protection of the products placed on them. Today they assume all the time new functions, which causes that their role increases systematically. The study aimed at identification of the factors influencing the choice of the liquid dairy products packages. It was found out that the following factors had the largest influence on the decisions by the buyers: taste of product in a given package and shelf life of the product in it. It was also shown that the package preferences of buyers are conditioned by demographic and economic factors characterizing them.

PREFERENCJE NABYWCÓW DOTYCZĄCE OPAKOWAŃ PŁYNNYCH PRODUKTÓW MLECZARSKICH

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Słowa kluczowe: preferencje, opakowania, cechy opakowania, produkty mleczarskie.

Abstract

Współczesne opakowania nieustannie się zmieniają. Niegdyś miały zapewniać przede wszystkim odpowiednią ochronę umieszczanym w nich produktom. Dziś spełniają wiele nowych funkcji, co sprawia, że ich rola systematycznie rośnie. Celem pracy była identyfikacja czynników wpływających na wybór opakowań płynnych produktów mleczarskich. Stwierdzono, że największy wpływ na decyzje nabywców mają: smak produktu w danym opakowaniu i długość okresu przechowywania w nim produktu. Wykazano również, że preferencje nabywców są uwarunkowane charakteryzującymi ich czynnikami demograficzno-ekonomicznymi.

Introduction

Contemporary packages – protecting products quality increasingly well, visually attractive, ergonomic, ecological, possessing the possibility of controlling quality of products or warning against expiration of the shelf life date (CICHÓN 1996, KOSIOROWSKA, LESIÓW 2005) – evolve continually. In the old days the package was, first of all, to provide adequate protection for products stored in them. Today the traditional functions of packages (protective, economic) have been complemented with newly created functions such as promotion, information, education and ecology (LISIŃSKA-KUŚNIERZ, UCHEREK 2003). Assuming all the new functions causes that the package is increasingly often considered a special attribute of product placed in it. According to URBAN (1999), packages possess too many characteristics independent off the product to be able to treat them jointly. In case of liquid dairy products it is difficult to agree with that opinion unanimously; this is determined to a significant extent by their specificity (PANFIL-KUNCEWICZ 1998). Those products are “hidden” and their distribution without a package is absolutely impossible. As a consequence, the package – being somehow an integral part of the product – influences the market choices of buyers. Independent off whether we treat the package as a part of the product or as a separate element of it, its role is systematically increasing and, as stated by MRUK (1999), the competitive combat of enterprises to win buyers will become more the fight of packages than products.

Facing the increasing diversity of the market offer the buyer is facing the challenge of choosing the package. Assessment of the available market offer is made usually from the perspective of characteristics the packages possess, next values are assigned to those characteristics, and the choice is made. As a result, trying to appreciate the values of packages or disregarding them the buyer decides to purchase a product in a given package or resigns it. That choice, as it could seem, is not an easy one because the market is increasingly abundant and the competition within it causes that sometimes, because of the similarity of functions fulfilled by packages, it becomes increasingly uniform. As a consequence the buyer, although having a wide range of products to choose from, because of the similarity of functions fulfilled by competitive packages must carefully consider the decisions to be taken. Additionally, preferences of buyers are influenced significantly by demographic and economic conditions (GARBARSKI 1994). All that causes that the buyer makes the choice from many products in increasingly diversified packages on the basis of specific preferences.

Package preferences of buyers encompass many characteristics that are assigned to packages. According to GÓRSKA-WARSEWICZ (2003) all characteristics

that make the consumer purchase the product in a given package are important, however, from the economic point of view two of them should be of particular importance: package capacity and package type. As a consequence the goal of the study was to:

- identify the factors (characteristics) determining the choice of liquid dairy products packages;
- analyze selected characteristics of packages of major importance for product purchase decision;
- determine the influence of demographic and economic profile of the buyers on their preferences concerning the package capacity and type.

Methodology of study

The studies were carried out on a random population of 677 respondents during the period from March till May 2006 in Olsztyn sub-region of Warmia and Mazury voivodship. The study on that population was carried out in large trade outlets: super and hypermarkets increasingly popular among the clients (KŁOSIEWICZ, GÓRECKA 2005), as well as neighborhood and company shops.

The questionnaire-based method was applied using the questionnaire consisting of three parts. The first of them covered opinions of the respondents concerning the factors determining the choice of package. The second part covered the information on the knowledge of ecological values of packages while the third part covered the characteristic of the demographic and economic profile of the respondents (gender, age, education, place of residence, household size, monthly income per capita in the household).

The results were subject to statistical analysis using the non-parametric independence test χ^2 . The dependence of covered characteristics was considered significant assuming the significance level $\alpha < 0.05$. In case of significant dependences the strength of the relation between the studied characteristics was assessed by applying the *V*-Cramer coefficient computed according to the formula:

$$V = \sqrt{\frac{\chi^2}{N \cdot \min(k - 1, w - 1)'}}$$

where:

N – number of observations, *k* and *w* – dimensions of two-dimensional matrix.

As a consequence of the possibility of selecting a number of possible answers or giving no answer by the respondents the results presented do not always total at 100%.

The covered population was dominated by:

- respondents aged up to 35 years (70.9%),
- women (75.9%),
- respondents with at least secondary education (72.7%),
- married people (49.8%),
- households consisting of 3 and 4 persons (53.1%),
- residents in towns with the population exceeding 60.000 (45.9%),
- people generating income from employment (73.7%),
- people shopping in super and hypermarkets (78.1%).

Results and discussion

Influence of the individual characteristics of the package on purchase decisions was studied (Tab. 1).

According to more than 80% of the respondents the taste impressions of product in a given package (83.7%) and shelf life of product in the package (81.1%) had at least a significant influence on the product purchase decision. More than 70% of the respondents believed that functionality of the package and price of product in a given package were characteristics of significant influence on their preferences. From the perspective interesting to us significant positions in the ranking of package characteristics were taken by the packaging material (63.4%), package capacity (62.9%) and placing the producer's brand on the package (61.2%) – frequently associated with the product itself.

Additionally, more that 50% of the respondents also noticed the importance of information placed on the packages (53.2%) and their environment-friendly character (51.7%). Those were the characteristics ranked higher in the positive assessment of the package than characteristics such as the looks, shape and esthetics (43.2%) or lightness of the package (31.6%).

Further analysis covered selected characteristics of packages that because of their influence on the purchase decision took top positions in the ranking. Those were: taste impressions related to product in a given package, price, capacity and size of the package as well and environment friendly character of the package.

Taste impressions related to the product in a given package were the characteristic that the buyers of dairy products ranked the highest. As a consequence, the beliefs of the respondents concerning the influence of package type on taste values of products contained in them were determined (Fig. 1).

Table 1
 Characteristics of the package and their influence on product purchase decisions
 (percentage of respondents)

Package characteristics	Influence on purchase decision (rating) <i>N</i> = 677 (100%)					percentage of respondents for whom the package characteristic is "at least significant"
	insignificant	low significance	indifferent	significant	highly significant	
Package material	8.4	12.6	7.8	50.1	13.3	63.4
Looks, shape, esthetics	8.9	25.8	13.7	35.5	7.7	43.2
Functionality	2.5	9.6	8.7	47.1	24.8	71.9
Size, capacity	5.2	12.3	12.0	48.9	14.0	62.9
Lightness	18.2	26.6	14.3	24.8	6.8	31.6
Producer brand	7.2	13.7	11.1	44.2	17.0	61.2
Price	2.8	10.5	8.9	46.7	24.7	71.4
Taste impression of product in the package	2.1	1.6	5.3	27.3	56.4	83.7
Shelf life length	2.1	4.7	5.5	40.6	40.5	81.1
Additional information on the package	8.0	18.0	12.3	35.2	18.0	53.2
Ecology	7.5	15.7	15.2	34.0	17.7	51.7

Source: Own work based on own studies.

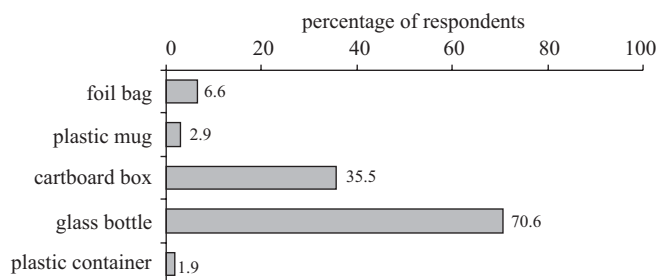


Fig. 1. Influence of package type on maintaining taste values of the product

Source: Own work based on own studies.

The highest percentage of respondents (70.6%) indicated glass bottle, and then cardboard box (35.5%) as packages securing the best taste values of products packed in them. The other types of packages scored much worse. In the decreasing order they were ranked as follows: foil, plastic container and plastic bottle.

Price of the product in a given package was another characteristic of the package that the buyers consider when selecting the package. The opinions of respondents concerning prices of liquid dairy products in different packages are presented in Table 2.

Prices of products in packages according to the respondents
(percentage of respondents)

Table 2

Package type	Score $N = 677$ (100%)						
	cheapest	cheap	average	expensive	the most expensive	no answer	percentage of respondents for whom the package was "too expensive"
Foil bag	78.7	7.2	1.6	0.6	0.6	11.2	1.2
Plastic container	3.8	42.8	26.0	7.8	4.4	15.1	12.2
Cardboard box	3.2	17.9	26.3	25.4	16.7	10.5	42.1
Glass bottle	3.8	6.6	9.9	18.9	48.9	11.8	67.8
Plastic bottle	3.0	15.4	27.9	28.7	10.6	14.5	39.3

Source: Own work based on own studies.

Definitely the highest percentage of respondents (67.8%) considered the glass bottle the package that was "too expensive". The foil package was considered by the buyers the definitely cheapest package (only 1.2% of the respondents indicated the foil as "too expensive"). The respondents generally did not see the difference between prices of cardboard and plastic packages ranking them similarly from that perspective. This indicates that they treated them as compatible in price.

The buyer facing a shop shelf notices the package material from which the package is made and its capacity first. Considering the above Tables 3 and 4 present the types and capacities of packages for milk and drinks purchased by the buyers. Next, those characteristics were subject to statistical analysis (Tab. 5 and 6). The analysis covered the part of population that purchased dairy products "frequently" or "always".

The respondents purchased fresh milk most frequently in cardboard boxes (58.7% of the respondents) and in foil (26.5%). 90.6% of the respondents purchased UHT milk in cardboard box. The highest percentage of the respondents (69.9%) purchased yogurts in plastic containers. As concerns the other packages of yogurt available in the market (foil, cardboard boxes and plastic bottles) the buyers selected cardboard boxes the most frequently 23.7%).

Table 3

Liquid dairy products purchased in different packages
(percentage of respondents)

Product	Package type				
	Foil	Plastic container	Cardboard box	Glass bottle	Plastic bottle
Fresh milk	26.5	–	58.7	6.4	10.3
UHT milk	–	–	90.6	–	–
Yogurt	5.4	69.9	23.7	–	9.0
Kefir	2.4	37.5	23.7	–	10.9
Buttermilk	1.6	23.7	45.0	–	10.6
Flavored milk	–	8.1	21.5	–	–
Sour milk	–	9.9	–	–	–
Other dairy drinks	–	–	10.6	–	–

Source: Own work based on own studies.

Kefir once available in plastic containers only still enjoyed the highest popularity among consumers packed in that type of packages (37.5%). On the other hand, cardboard boxes appearing increasingly frequently in the market were appreciated by 23.7% of the respondents. In case of buttermilk the preferred packages were plastic containers and cardboard boxes (23.7% and 45.0% of the respondents respectively). Cardboard boxes with a straw were the most popular packages among the buyers of flavored milk – the product targeted in particular at the youngest buyers. Sour milk and other dairy drinks (e.g. fruit and milk drinks) were purchased with a relatively lower frequency. As concerns sour milk the respondents' preferences were limited to the only type of package available in the market (plastic container). The other dairy drinks were purchased most often by the respondents in cardboard boxes.

Verification by χ^2 test concerning the influence of demographic and economic factors on the assessment of the packaging material influence on the purchase decisions showed a significant correlation in case of gender, marital status, place of residence and number of persons in the household (the assumed significance level $\alpha < 0.05$) (tab. 4). It was found out that the choice of packaging material was influenced the strongest by the marital status ($V = 0.132$), gender ($V = 0.126$), number of persons in the household ($V = 0.122$) and place of residence ($p = 0.108$). In case of other tested factors such as age, education and monthly income of the household no significant correlations were found.

Table 4

Capacity of liquid dairy product package purchased
(percentage of respondents)

Product	Package capacity							
	Up to 0.15 liter	↑0.15 – ↓0.25 liter	0.25 liter	↑0.25 – ↓0.50 liter	0.50 liter	↑0.50 – ↓1 liter	1 liter	Over 1 liter
Fresh milk	–	–	–	–	12.5	–	45.2	4.9
UHT milk	–	–	–	–	14.0	–	54.0	8.6
Yogurt	8.8	20.1	31.2	28.5	21.8	5.1	5.2	–
Kefir	–	–	–	18.0	21.5	4.7	9.9	–
Buttermilk	–	–	–	–	17.4	7.1	22.3	–
Flavored milk	1.0	2.8	5.6	6.2	5.5	–	–	–
Sour milk	–	–	–	–	6.7	3.0	3.1	–
Other dairy drinks	0.7	2.5	2.5	3.3	3.5	2.3	2.4	–

Source: Own work based on own studies.

Table 5

Assessment of packaging material importance for product purchase decisions and demographic and economic characteristics of the respondents

Demographic – economic characteristic	Assessment of correlation		
	χ^2	<i>p</i>	V – Cramer
Gender	10.73	0.030	0.126
Age	13.68	0.206	–
Education	6.61	0.579	–
Marital status	23.60	0.003	0.132
Place of residence	23.79	0.022	0.108
Persons in the household	40.76	0.001	0.122
Including children up to 6 years	0.75	0.946	–
Children 7–13 years	2.06	0.724	–
Monthly household income	18.39	0.302	–

Source: Own work based on own studies.

Table 6

Importance of package capacity for product purchase decision and demographic and economic characteristics of the respondents

Demographic and economic characteristic	Assessment of correlation		
	χ^2	p	V – Cramer
Gender	27.51	<0.001	0.202
Age	20.40	0.060	–
Education	17.15	0.020	0.071
Marital status	8.64	0.374	–
Place of residence	12.28	0.424	–
Persons in the household	11.12	0.802	–
Including children up to 6 years	4.36	0.359	–
Children 7–13 years	4.19	0.381	–
Monthly household income	26.12	0.052	0.082

Source: Own work based on own studies.

Women and men expressed different opinions concerning the influence of packaging material on the purchase decision. Men, different from women, generally did not care for the packaging material. As concerns the marital status it was found out that single persons in most cases treated packaging material as important (58.3%) or very important (23.3%) for the purchase decision. As concerns the number of people in the household, it was found out that in households consisting of two persons 80.4% of the respondents paid attention to the packaging material in taking the purchase decision. Every fourth respondent belonging to a household of at least five persons declared that the type of package was of low importance. Differences concerning opinions on the influence of packaging type on purchase decision were observed while analyzing the place of residence of the respondents. Those living in rural areas (64.0%) and small towns (23.3%) under 20.000 of residents considered packaging material important in the purchase decision while residents of medium size towns (20 000 – 60 000 population) considered it a factor of low importance among their preferences (Tab. 7).

Respondents having the choice of three different sizes of fresh milk and extended shelf life milk packages (0.5 l, 1 l, 1.5 l) most frequently chose milk in 1 liter packages (Tab. 4). During the recent years many different packages appeared in the market for special nutritive value products – yogurts, enjoying the highest demand among the dairy drinks (POŁOM, REJMAN 2006). The range of capacities of packages for those products changed as a surprisingly rapid pace. The studies show that consumers preferred yogurts in small packages, most frequently 0.15–0.25 l, 0.25 l and 0.25–0.5 l. The next two products,

Table 7
Importance of packaging material for product purchase decision considering the demographic and economic profile of the buyers
(percentage of respondents)

Ranking of importance	Total	Gender		Marital status			Place of residence (K residents.)			Number of persons in the household					
		F	M	single	married	widow/ widower	rural	< 20	20-60	> 60	1	2	3	4	≥ 5
Number of respondents	630	482	148	256	314	60	89	113	142	286	112	107	176	155	80
Unimportant	8.4	8.9	9.5	6.6	11.8	5.0	10.1	13.3	6.3	8.4	2.7	4.7	12.5	14.8	5.0
Low importance	12.6	12.0	18.2	17.2	10.8	11.7	14.6	8.0	21.1	11.5	17.0	7.5	11.4	11.6	25.0
Very important	13.3	15.4	10.8	10.6	15.6	23.3	7.8	23.3	17.8	15.1	11.6	14.0	14.2	16.1	15.0
Important	50.1	56.6	48.7	54.3	54.5	58.3	64.0	51.3	52.1	54.6	57.1	66.4	51.1	52.9	47.5
Hard to say	7.8	7.1	12.8	11.3	7.3	1.7	3.4	8.9	9.2	9.4	11.6	7.5	10.8	4.5	7.5

Source: Own work based on own studies.

Table 8
Importance of package capacity for product purchase decision considering the demographic and economic profile of the buyers
(percentage of respondents)

Ranking of importance	Total	Gender		Education			Monthly household income (PLN)				
		F	M	≤ vocational	secondary	tertiary	≤ 500	501-1000	1001-2000	2002-3000	> 3000
Number of respondents	625	481	144	144	313	168	43	93	135	108	123
Unimportant	5.6	4.6	9.0	4.9	5.1	7.1	7.0	8.6	2.2	7.4	6.5
Low importance	13.3	11.6	18.8	10.4	13.7	14.9	18.6	11.8	14.8	9.3	13.0
Very important	15.2	16.8	9.7	13.9	14.7	17.3	11.6	14.0	19.3	14.8	17.9
Important	53.0	56.6	41.0	59.7	48.9	54.8	41.9	47.3	50.4	61.1	56.9
Hard to say	13.0	10.4	21.5	11.1	17.6	6.0	20.9	18.3	13.3	7.4	5.7

Source: Own work based on own studies.

kefir and buttermilk, were most frequently purchased in 0.5 l and 1 l packages. Other dairy drinks (flavored milk, sour milk) were bought occasionally in all sizes of packages of those products available in the market.

Investigating the influence of demographic and economic characteristics on the opinions concerning the importance of package capacity for purchase decisions a significant correlation was found in case of gender ($p < 0.001$), education ($p = 0.02$) and monthly household income ($p = 0.052$) (Tab. 6). It was found out that the choice of the package material was under the strongest influence of gender ($V = 0.202$), monthly household income ($V = 0.082$) and education ($p = 0.071$). In case of other characteristics tested such as age, marital status, place of residence and persons in the household no significant correlations were found.

While in case of women package size played an important or very important role for purchase decision, in case of men it was of no particular importance. It was also found out that people with the lower than vocational education and people with tertiary education declared importance of package size for purchase decisions the most often (73.6% and 72.1% respectively). As concerns the monthly income of the household, the higher the income the more respondents declared importance of package size for the product purchase decision (Tab. 8).

During the recent years increasing attention is paid to the issues of ecology. Table 4 indicates that the buyers appreciate environment-friendly nature of the package. Opinions of respondents concerning ecological values of packages are presented in Figure 2. Respondents had the possibility of assessing four different types of packages: foil, plastic, cardboard and glass.

Respondents assessing from the ecological point of view the traditional cardboard packages as environment-friendly (61.0%) showed insufficient ecological knowledge on the characteristics of those packages. In assessing the ecological values of liquid dairy products' packages the respondents appreciated the value of glass bottle (62.5%) while cardboard boxes were most probably treated as traditional packages containing inside no aluminum foil at present practically not found in the market.

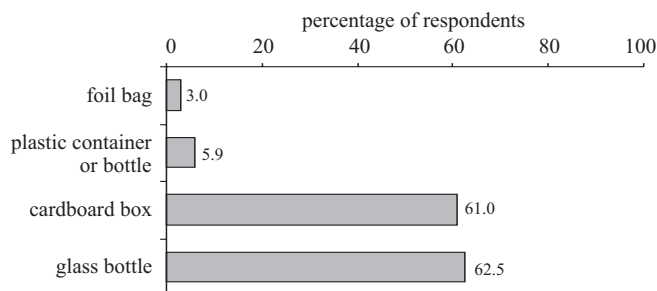


Fig. 2. Percentage of choices of the packages considered the most ecological
Source: Own work based on own studies.

It could be expected that the better the knowledge of the buyers on ecology of packages the higher their responsibility for segregation of waste would be. It was found out, however, that the majority of the respondents did not segregate the waste (90.3%). Only 2.8% of the respondents stated that they select waste while 7.9% that they segregate waste sometimes only (Fig. 3).

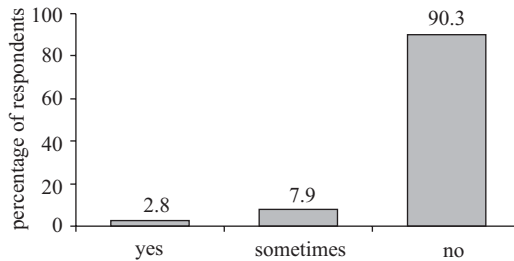


Fig. 3. Segregation of dairy products packaging waste

Source: Own work based on own studies.

The problem of package waste segregation and management is extremely important as the volume of packages disposed at landfills systematically increases. Absence of ecology-focused attitudes of buyers can result in negative consequences in the near future.

Conclusions

1. According to the opinions of the buyers of liquid dairy products the package characteristics were ranked in their importance in the following top down order: taste impression of the product in a given package, shelf life of product in the package, package functionality, price, capacity and size, producer brand, information on the package and ecological aspects. This indicates that the buyers appreciate the highest those characteristics of the package that have the highest influence on maintaining the sensor values of the products

2. Buyers of liquid dairy products notice taste differences between products in individual types of packages. The highest percentage of the respondents (70.6%) ranked the glass bottle the highest followed by cardboard box (35.5%) as the packages securing the best taste values of products in them.

3. In the ranking of package prices (from the cheapest to the most expensive) the respondents gave the leading position to foil bags followed by almost equally ranked plastic bottle and cardboard box. Glass bottle was the most expensive package according to the respondents. The buyers of dairy products then notice price differences between products in different packages.

4. Package preferences of buyers of milk and dairy drinks concerning individual types and capacities of packages are diversified and depend on the product purchased, that is:

- fresh and UHT milk is most often purchased in cardboard boxes,
- kefir is the most popular in plastic containers,
- buttermilk is preferred in cardboard boxes and plastic containers,
- flavored milk and other dairy drinks are most frequently purchased in cardboard boxes.

5. The studies showed existence of correlation between the type and capacity of purchased packages and some demographic and economic characteristics of the respondents. As concerns the influence of packaging material on purchase decision, statistically significant correlations were found in case of gender, marital status, place of residence and number of persons in the household. As concerns the influence of package capacity, significant correlations were found in case of gender, education and monthly household income.

6. In the ecological assessment of packages of liquid dairy products the respondents showed insufficient knowledge. They ranked the highest the glass and cardboard packages followed by plastic and foil packages. As a consequence consumer education in ecology of packages is necessary.

7. The buyers of dairy products do not contribute with their behavior to improvement of the natural environment status (over 90% of the respondents do not segregate waste). That fact was linked to the earlier mentioned low level of knowledge on ecology of packages and it requires quick action to change that unfavorable situation.

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**THE INFLUENCE OF INTERNAL MARKETING
AND EMPLOYEES' ENTREPRENEURSHIP
ON KNOWLEDGE MANAGEMENT**

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Key words: internal marketing, entrepreneurship, employees' entrepreneurship, internal customer, knowledge management.

A b s t r a c t

In the paper the authors are seeking answer to the following questions: what connections exist between internal marketing, employees' entrepreneurship and knowledge management? Does employees' entrepreneurship directed at making knowledge depends on internal marketing? The conclusions of the questionnaire connected with the topic and which was carried out in some enterprises from the TriCity region are presented in the article.

**WPŁYW MARKETINGU WEWNĘTRZNEGO I PRZEDSIĘBIORCZOŚCI PRACOWNIKÓW
NA ZARZĄDZANIE WIEDZĄ**

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Słowa kluczowe: marketing wewnętrzny, przedsiębiorczość, przedsiębiorczość pracowników, klient wewnętrzny, zarządzanie wiedzą, bodźce motywacyjne.

A b s t r a k t

W artykule autorki poszukują odpowiedzi na pytanie: jakie zależności zachodzą między marketingiem wewnętrznym, przedsiębiorczością pracowników i zarządzaniem wiedzą? Czy przedsiębiorczość pracowników ukierunkowana na zarządzanie wiedzą zależy od marketingu wewnętrznego? Wnioski z badania ankietowego, przeprowadzonego w różnych przedsiębiorstwach z rejonu Trójmiasta, w których poszukiwano odpowiedzi na te pytania, zaprezentowano w artykule.

Introduction

Knowledge is a special asset of a modern enterprise (organization). The asset, which comes into being, develops and can be effectively made use of thanks to employees only. Therefore, the organization activities should aim at recruiting employees equipped with the knowledge indispensable for effective management of the organization and who are entrepreneurial – enterprising, ingenious, with the features of character that are helpful in acquiring and accumulating knowledge, which later on is used in the enterprise. Stimulating employees' entrepreneurship is assisted by the observation of internal marketing principles. These principles resolve themselves into treating an employee as an internal customer of the organization, and the relation enterprise-employee as a process of exchange, as a result of which both the organization and the employees gain benefits connected with satisfying their needs. The benefit for the organization is building an effective system of knowledge management. The benefit for employees is the satisfaction from the use of knowledge, skills, abilities and willingness to develop the organization. The authors carried out research, in which they verified the following hypothesis: creating knowledge indispensable for enterprise management requires the application of internal marketing principles, thanks to which employees' entrepreneurship manifests itself. The survey, which had a pilot character, was carried out among employees from the organizations operating in the TriCity region.

Theoretical assumptions

Management theoreticians and practitioners emphasize that knowledge is a valuable intangible asset of the enterprise. The knowledge that is used in enterprises can generate the value added. Thus, it translates itself into a competitive position of the enterprise in the market. Knowledge understood as the whole collection of facts, skills in some branches, acquired as a result of education and life experience constitutes a tool enabling the employee who has it to deal effectively with the collected by him information.

Treating knowledge as the asset means (WALKOWIAK 2004, p. 44) that knowledge can be managed. Knowledge management is the process consisting of three phases (ROMANOWSKA 2001, p. 34):

- acquiring knowledge – increasing intellectual capital of the enterprise by, among others investing in employees (collecting the original knowledge, which enables the enterprise to gain a competitive advantage),
- sharing knowledge – creating new knowledge – team knowledge and organizational knowledge – its dissemination and implementation into practical uses,

– transforming knowledge into decisions (the most difficult phase) – its conversion into the value for the shareholders of the enterprise; the process, in which the real value emerges from the information resources, the actual knowledge and the wisdom of people.

Realizing knowledge management in the enterprise depends, however, on people who create the enterprise. These people are: top management, first of all, but also managers of particular levels of hierarchy and the other employees. It is necessary to take proper care so that everybody in the organization can understand the essence and significance of knowledge management, and that they can use it in their work. Mostly in contacts with shareholders of the enterprise.

The positive results in the use of knowledge management principles are achieved by internal marketing. Internal marketing consists in managing internal relations. Its aim is to make all employees understand all the decisions taken in the enterprise and to build up the fundamentals of loyalty and identification with the company (FRACKIEWICZ 2004, p. 205). Internal marketing assumes that in order to meet the external customer's requirements, to create the competitive value in the form of an offer, it is necessary to show equal respect to employees, who are internal customers. In internal marketing the same principles of behavior are obligatory as these followed by the enterprise when they deal with the external customer, that is:

– the market in the center of interest – the organization should carry out segmentation of the internal market in order to absorb groups of employees on the basis of the accepted criteria (e.g. entrepreneurship, ambition, commitment, analytical abilities, communicativeness, personality, etc.). It will enable, among others delegating proper tasks in knowledge management to an appropriate employee. The segmentation taking into account similar criteria should also refer to potential employees of the organization.

– focus on the customer – identification of employees' needs and behaviors may serve better communication in the organization and at the same time create a sense of togetherness and understanding in the realization of the organization's aims. The information about employees' is also indispensable to elaborate the system of motivating employees and to plan and carry out staff trainings.

– projecting internal marketing areas – bidirectional internal communication, the system of motivation and trainings as the main areas of internal marketing play the fundamental role in simulating the process of knowledge management.

– benefits – beneficiaries of the activities within internal marketing are employees and the organization itself. Employees satisfy many needs, starting from the need of: safety, belonging to somewhere, respect and self-realization

and ending with the need of knowledge. The organization gets employees loyalty and thanks to it reduces the costs of recruitment and trainings. Simultaneously, it increases employees' efficiency in acquiring knowledge, sharing it and transforming it into decisions. In other words, the organization obtains the efficient system of knowledge management.

The stimulating knowledge management through the areas of internal marketing presents Figure 1. There are very strong connections (the bold lines) between the first stage of knowledge management process – acquiring knowledge – and internal communication and the system of motivation as the principles of internal marketing. On the contrary, motivation and trainings exert an influence on next stages of the knowledge management process: sharing knowledge and transforming knowledge into decisions.

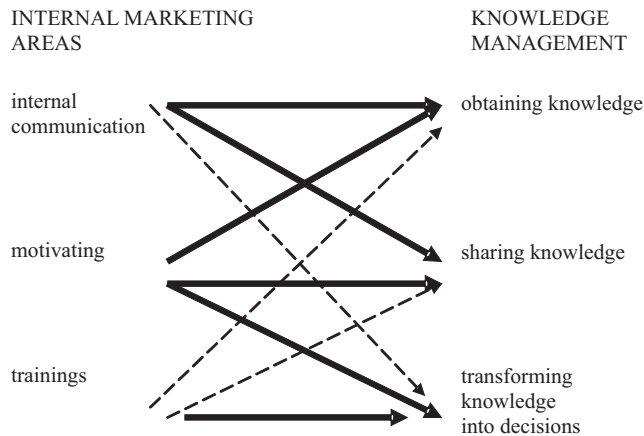


Fig. 1. Stimulating knowledge management through the areas of internal marketing
Source: The authors' own elaboration.

Internal marketing focuses on employees as the very special asset of the enterprise, whose active participation is essential in the process of knowledge management. Therefore, it is important to know what potential employees represent and to what extent and if at all the organization can have an influence on increasing this potential. Already in the recruitment phase entrepreneurial people should be favored – that means these people who demonstrate competence, creativity, engagement in organizational problems and an innovative approach to problems. Once they become members of the organization, the aim of internal marketing is to stimulate entrepreneurship of these employees (and the organization). As a result, the accumulated and used (through this entrepreneurship) knowledge contributes to an increase of the

enterprise's worth and employees gain satisfaction from a possibility of its application in order to meet a set of enterprise's targets.

Entrepreneurship is a skill consisting in noticing or finding the reasons for self-realization and getting along in the conditions of insecurity or risk. It is determined by an access to real resources, financial resources, human capital and knowledge (MIETLEWSKI 2003, p. 45); entrepreneurship consists in creating new solutions that are inseparably connected with risk (entrepreneurship characteristic). Entrepreneurship involves seeking and creating new opportunities and making innovations – and on this basis – creating new values (products and services of new values). The above definitions underline the particular role of an entrepreneurial person (entrepreneur) in an economic activity. Therefore, among the categories, in which definitions of entrepreneurship appearing in literature can be classified, the category referring to individual characteristics of an entrepreneur is especially important. The characteristics of an entrepreneurial person – predispositions for being entrepreneurial¹, such as: initiative, strong will, persuasive skills, risk taking (rather moderate), flexibility, creativity, independence, ability to solve problems, sense of direction for the future, a crave for success, imagination, optimism, leadership, ability to work hard – are the basis for all the activities this person undertakes and that concern the organization (enterprise). Therefore, it is possible to say that individual entrepreneurship (of employees) manifests itself through the set of personal features, which are the attributes of the employee and which determine his/her activity in the enterprise (organization) oriented towards market opportunities, including the creation of new economic ventures and the improvement of enterprise management (knowledge management).

Entrepreneurship requires the combination of two phenomena: the existence of entrepreneurial individuals and the conditions (opportunities) for entrepreneurship. Entrepreneurial individuals are not only owners-entrepreneurs, but also managerial staff and all employees. On the other hand, the conditions that are indispensable for the development of entrepreneurship are: a tendency of the enterprise to develop, pro-effectiveness organizational culture, innovative organizational structures, and finally internal marketing oriented towards entrepreneurship.

¹ The others are: 1) a functional approach to entrepreneurship – as the process of creating something different, new – you pay attention in it to economic functions realized as a result of entrepreneurial activities, 2) individual characteristics of an entrepreneur – a predisposition to be entrepreneurial, managerial behavior – an approach to entrepreneurship as the chase for opportunities without taking into account restrictions imposed by currently controlled resources (the behavioral theory of entrepreneurship) (Szelągowska-Rudzka, Mietlewski, 2006, s. 2-3).

The description of the research and conclusions

The research was carried out with the use of a questionnaire in April 2007. It had a pilot character and there were 107 respondents that took part in it. The analysis was performed on 102 correctly filled questionnaires. Among the respondents dominated women (65%) and employees of the basic level (85%) at the age of 21-40 (93%). The surveyed people were employees of sales departments (29%), finance departments (17%) and production departments (10%) (the others were: marketing 9%, personnel 8%, others 23%). The companies operate in the following branches: services (26%), trade (21%), industry (10%) (and: building and education 6% each, transport 5%, tourism 3%, the others 17%). The questionnaire consisted of three parts and the characteristics of the respondents. The first part diagnosed the entrepreneurial attitude among the respondents, which means their creativity, innovativeness, responsibility, engagement in the realization of the strategy, willingness to introduce developmental changes. The second part dealt with the activities within internal marketing: individual treatment of employees, internal communication, motivation and trainings. The third part, on the other hand, examined the organization's orientation towards acquiring, using and sharing knowledge (elements of the system of knowledge management) among and by employees as well as creating mechanisms that make this possible. The questionnaire used a five-degree scale.

In order to verify the research hypothesis the significant analysis and the regression analysis were carried out.

The results from research presents Figures 2-4 and the regression model.

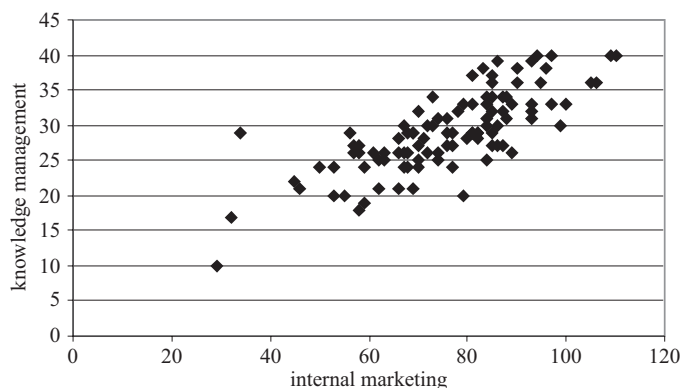


Fig. 2. The influence of internal marketing on knowledge management

Source: The authors' own elaboration.

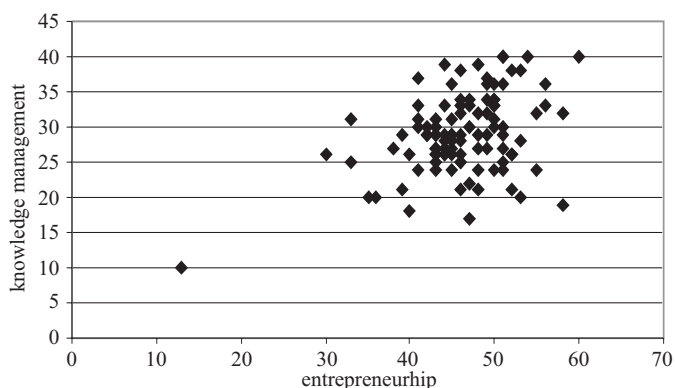


Fig. 3. The influence of entrepreneurship on knowledge management
Source: The authors' own elaboration.

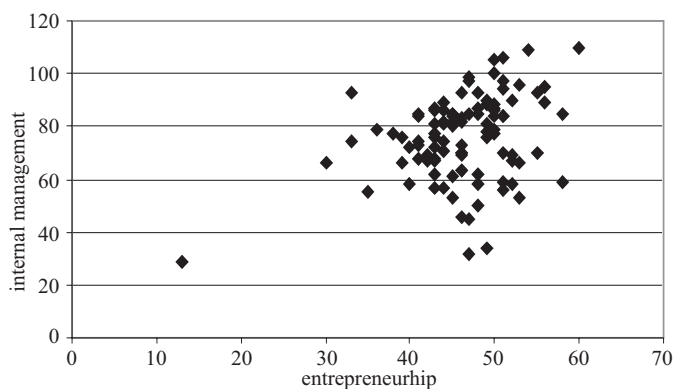


Fig. 4. The influence of internal marketing on entrepreneurship
Source: The authors own elaboration.

The regression model:

The evaluation of knowledge = $0.3 * \text{the evaluation of entrepreneurship} + 0.72 * \text{the evaluation of internal marketing}$

The conclusions obtained from the analysis of the data are the following:

1. The correlation analysis carried out at a 5% level of essentiality indicated the occurrence of:

- the essential connection between the evaluation of internal marketing and the evaluation of knowledge management (the coefficient 0.77) (Fig. 2)
- the poor positive dependence between the evaluation of entrepreneurship and the evaluation of knowledge management (0.41) (Fig. 3)
- the poor positive dependence between the evaluation of entrepreneurship and the evaluation of internal marketing (0.34) (Fig. 4)

2. The regression analysis (model) showed that the evaluation of internal marketing affects the evaluation of knowledge twice as much (0.72) as the evaluation of entrepreneurship (0.3). On the other hand, the changeability of the evaluation of knowledge is accounted for (by the evaluation of internal marketing and the evaluation of entrepreneurship) in 62%, that means that there exist some other variables influencing the evaluation of knowledge, which were not taken into account in the research.

So, the applied statistic methods enabled, in relation to the examined enterprises, verifying positively the posed research hypothesis: creating knowledge that is indispensable for enterprise management requires the application of internal marketing principles, thanks to which employees entrepreneurship manifests itself.

In conclusion

The organization should aim at building up its position in the market by improving the system of knowledge management. In order to the realization of internal marketing principles and employees' entrepreneurship help to accomplish this aim. The indicated dependence between internal marketing and employees entrepreneurship in the examined enterprises makes it possible to draw the conclusion that internal marketing can stimulate individual entrepreneurship, which in turn will contribute to a synergy effect of the influence of the discussed variables on knowledge management.

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THE DETERMINANTS OF LOGISTICS OUTSOURCING DECISION. AN EMPIRICAL STUDY

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Key words: logistics outsourcing, transaction costs economics, resource based theory, risk avoidance, dairy industry.

Abstract

Carried out within the French Dairy Industry, this qualitative and quantitative research allowed describing the practices of logistic externalisation in a very little investigated field. The results, treated "activity by activity" showed that contrary to what is often stated, the logistic components of management are rarely outsourced. The article attempts to apprehend the major reasons for this policy. On the other hand, the outsourcing of transport is standardized and the reasons which influence this choice are not only economic. The interest not to treat outsourcing of activities uniformly is thus shown. Theoretical and praxeologic contributions make it possible to show avoidance and risk reduction strategies the benefit of both outsourcer and TPL.

WYZNACZNIKI DECYZJI DOTYCZĄCYCH OUTSOURCINGU LOGISTYCZNEGO. BADANIE EMPIRYCZNE

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Słowa kluczowe: outsourcing logistyczny, ekonomia kosztów transakcji, teoria zasobowa, unikanie ryzyka, przemysł mleczarski.

Abstrakt

Przeprowadzone we francuskim sektorze mleczarskim badania jakościowe i ilościowe umożliwiły przedstawienie praktyk eksternalizacji outsourcingu logistycznego w mało zbadanym obszarze. Wyniki rozpatrywane „działanie po działaniu” wskazują, że w przeciwieństwie do tego, co się często stwierdza, logistyczne komponenty zarządzania rzadko podlegają outsourcingowi. W artykule podjęto

próbę wyjaśnienia głównych przyczyn takiej polityki. Z drugiej strony, outsourcing transportowy jest standaryzowany, a powody takiego postępowania są nie tylko ekonomiczne. Przedstawiono więc też uzasadnienie niejednolitego traktowania outsourcingu różnych działań. Rozważania teoretyczne i prakseologiczne umożliwiły ponadto ukazanie strategii unikania i redukcji ryzyka, korzystnych dla obydwu stron procesu outsourcingu.

Introduction

Since the early 1990s, worldwide practices of outsourcing logistic activities have been increasing, resulting in an annual 10% increase (SOHAIL, SOHAL 2003). The enthusiasm of management for the phenomenon of logistic outsourcing has affected scientific literature (RAZZAQUE, SHENG 1998). Articles and books for the layman aimed at managers often describe ready-made methods (best practices) to achieve outsourcing operations. Yet this literature is not related to any rigorous theoretical frame (LYNCH 2001) and remains mostly descriptive (KNEMEYER, CORSI, MURPHY 2003). At the same time, logistics evolved. Many researchers detected a metamorphosis of this function which, was operational in the years 1960s, and is now becoming increasingly strategic. Although research works on outsourcing are abundant, few focus on outsourcing in the field of logistics. Existing research works are often incomplete and only deal with a particular part of the logistic chain, such as physical distribution (BALLOU 1999), goods warehousing (MALTZ 1994), transport or tailored logistics (GUERIN, LAMBERT 2000), transport for exports (BIGRAS, DÉSAULNIERS 1998, STANK, MALTZ 1996), integrated logistics (RABINOVITCH, WINDLE, DRESNER, CORSI 1999) or supply chain (AMAMI 2001). These research works stress the study of the various configurations and relations resulting from a logistic outsourcing decision rather than the decision factors (AMAMI 2001, KANNAN, TAN 2002, MENON, MCGINNIS, ACKERMANN 1998, SKJOETT-LARSEN 2000). Taking these elements, and the strategic importance of an outsourcing decision (SKJOETT-LARSEN 2000) into account, what are the determinants of outsourcing logistic activities to a T.P.L? Are they economic, strategic or organizational? Which are the most frequently externalized components? What can management act learn from this action? The answer to these various questions initially calls for a choice of theoretical anchoring. From a conceptual point of view, a review of the recent literature showed that the decision of outsourcing can be efficiently dealt with thanks to a dozen theoretical approaches. However, the rational decision paradigm remains the main reference. This is why, the economics of the transaction costs theory inspired from COASE'S (1937) founding work and supplemented by WILLIAMSON (1985) was called upon. It was enriched by certain contributions resulting from the Resource Based View, this theory effectively supplementing economic logic

though the concepts relating to core competencies and performance differential (WILLIAMSON 1999, p. 1106). Carried out within the French Dairy Industry, this qualitative and quantitative research allowed describing the practices of logistic externalisation in a very little investigated field. The results, treated “activity by activity” showed that contrary to what is often stated, the logistic components of management are rarely outsourced. The article attempts to apprehend the major reasons for this policy. On the other hand, the externalisation of transport is standardized and the reasons which influence this choice are not only economic. The interest not to treat the externalisation of activities uniformly is thus shown. Theoretical and praxeologic contributions make it possible to show avoidance and risk reduction strategies the benefit of both outsourcer and TPL.

Theoretical foundations

First it is important to specify that our analysis centred on the outsourcer within the organisation. Other approaches could have been adopted, for instance at the level focusing on the principal but in a B. to B. perspective or centring on the provider.

The determinants of outsourcing logistics inspired by TCE

The transactional approach consists in looking for a match between the features of transaction and the structure of governance: market (spot transaction), hierarchy (internal maintenance) or any other hybrid form between the two, such as contracts, licensing, franchising or brand agreements, alliances, common subsidiaries and so on (WILLIAMSON 1994). In the field of logistics, outsourcing may be considered as a hybrid form of governance among which each accepts different contractual dispositions (DAVID, HAN 2004). According to MÉNARD (2003), this type of tasks delegation, which usually involves resource pooling, resembles a form of hybrid governance. For “hybrid forms”, the obvious choice is the neoclassical contract, which is “more flexible and adaptative than standard contract law” (DAVID, HAN 2004, p. 40). Parties in an exchange (principal and contractor) keep their autonomy while remaining in a state of significant bilateral dependency.

In the field of logistics, which features of transaction explain the decision outsourcing? The goal here is to analyse the specificities linked to the nature of transaction costs as well as transaction characteristics in our particular field.

Manifestations and Nature of transaction costs in the logistic chain

Defined as a combination of physical and informational flows, in a context of exchange, logistics generates transaction costs due to informational asymmetries. An economic transaction consists of three essential steps, each of which may involve costs: (1) Information collecting (2) Bargaining and (3) Performance Controlling.

For example, for an outsourcer, collecting information on prospective suppliers, their competence and capacities, and the customers they supply provides strategic advantages but also generates *ex ante* costs. Similarly, during the “negotiation”, the inequality of information that may exist between a supplier with a great expertise in the field of logistics and an inexperienced principal entails high direct and opportunity costs. As PACHÉ (2002, p. 55) highlights, the suppliers “may deliberately conceal or distort the information they possess in order to benefit from more favourable trade conditions”.

The *ex post* costs consist of various costs: organisation, follow-up, control, re-negotiation of the initial agreement or for a more favourable agreement (PACHÉ 2002, p. 55).

Characteristics of transaction features in logistic field

Assets specificity

In the field of logistics, the degree of assets specificity is a crucial determinant. For PACHÉ and SAUVAGE (1999, p. 108), the degree of assets specificity corresponds to the fact that the activity of physical distribution may sometimes require special handling or warehousing equipment depending on the non standard products and /or market they address. Logistic suppliers have become more and more knowledgeable and demanding. They have developed relatively standardized investments especially in the field of warehousing, packaging and so on, so that the degree of assets specificity tends to decrease. However, reality is not that trivial. Many relatively basic operations such as transport, handling, warehousing and so on require specific and costly investments. We can mention here refrigerated vehicles, deep freeze storing areas for frozen foodstuffs, sophisticated forklift trucks, guidance systems, etc. (BIENSTOCK, MENTZER 1999). The irrecoverable costs of such investments are high and given this situation of bilateral monopoly, the risks of opportunist behaviour are almost inevitable. A high degree of specificity reduces the profits of outsourcing and encourages the principal to organise the given activity in-house. Another situation has been studied by PACHÉ (2002). It describes the

case when logistics suppliers, becoming more and more skilled, develop often very complex tailored services for their customers. Such assets, highly idiosyncratic, little or not redeployable, will result in increased opportunism on the part of logistics professionals. Switching costs for such equipments are exorbitant for the principal. As for site specificities, they are to be found when the logistics supplier purchases equipment for final use which is close to his principal or client, often in a logic of geographical logistics integration. Site specificities more particularly have to do with physical logistic operations: transport, warehousing, packing, labelling and bagging. As they also depend on the nature and volume of goods, they often require heavy facilities and benefit from being completed in given places with the rational objective of cost reduction and also with the objective of improving the proposed service: quality and time (DORNIER, FENDER 2001). Finally, personnel specificities; occur when a supplier develops skills resulting from such training as :learning by doing;, often collectively, to satisfy the individual needs of a client. The elements mentioned above as well as the theoretical predictions of TCE lead us to assume that a high degree of asset specificities reduces the advantages of an outsourcing operation and prompts the principal to organize the logistic activities in-house. In spite of the tendency to confirm the TCE hypotheses, no consensus has been reached yet, all the more so as there are still very little empirical research works in the field of logistics outsourcing. Having laid down these empirical and theoretical elements, we can now formulate **Proposition 1**:

H1. The different activities of the logistics chain require investments that may show a high degree of specificity. In the light of TCE predictions, we should note a tendency to outsource activities requiring assets (physical, site and human resources) with a low specificity. Conversely, a tendency to keep inside the elements of the logistic chain requiring highly specific assets should be observed.

Uncertainty: A reducing attribute of outsourcing?

Both internal and external uncertainties appear to be closely linked in the field of logistics. Internal uncertainty has to do, for example, with the difficulty of companies to estimate precisely their future needs, particularly when it comes to volume (STANK, MALTZ 1996). This type of uncertainty is directly linked to the uncertainty affecting the industry in which the company operates. Consequently it refers more to the transactional hypothesis according to which the firms that must meet fluctuating demand are prompted to resort to external resources for want of flexibility as well as lack of capacity.

Multiple factors contribute to making matters difficult: the unpredictability of the industry in which the firms operate the institutional and regulatory context which is becoming more and more complex and globalization. These

phenomena may not be new, but their detectable influence on the organization of logistics has recently become really perceptible. According to DORNIER and FENDER (2001), the primary effects of uncertainty are twofold: industrial and commercial destabilization. Relocations and the specialization of production units and Just in Time particularly, upset the traditional models of logistic. These strategies generate uncertainty because they cause demand to vary. The marketing strategies stemming from an extreme volatility of consumers' needs, also involve differences between forecasts and actual situations.

According to the precepts of T.C.E., internalization is recommended in contexts of strong uncertainty which generate an increase in transaction costs. Uncertainty results from the burdens of collecting and sorting information, negotiating and drawing up contracts, *ex ante* and *ex post*, renegotiating too extensively, which is all very difficult to manage. On the other hand, as some logistic components of the chain are not regarded as key activities, will T.C.E.'s predictions come true?

Our second proposition is formulated as follows:

H2. In the field of logistics, uncertainty is closely linked to the difficulty for the principals to define the needs that will satisfy an extremely fluctuating demand and the unstable and complex conditions of the external environment with certainty. In case of high uncertainty, we should witness a tendency to internalization, while a tendency to outsource all or part of the components of the logistics chain should take place in case of low uncertainty.

Frequency

Frequency accounts for the degree of repetitiveness of the transaction. This attribute is closely linked to the question of economies of scale. We put forth the theoretical assumption that the costs associated with turning to outsourcing are justified only if the transactions are recurring, by means of the economies of scale. A high frequency is often associated to a low level of asset specificity, which implies that the transactions relate to commodities. Conversely low frequency is associated with idiosyncratic assets and complex transactions. In the field of logistics, in the case of product distribution, for example, the degree of frequency can provide information if the volume of merchandise hauled is high enough to justify the cost of specific in-house equipment (BIENSTOCK, MENTZER 1999). In this case, it is relevant to check whether T.C.E. predictions about the decisions concerning highly-frequent standard activities – such as transport which requires assets whose specificity is low but which are very costly – is validated or not. The same questions may be raised about warehousing, a common activity, which nevertheless requires human, organisational and technical skills that are more and more complex

and particularly linked to the emergence of data warehousing (PRESTON, BROHMAN 2002), which performing firms cannot ignore.

H3. In the field of logistics, costs related to outsourcing are justified only in case of a high degree of frequency. According to theoretical predictions, we should note a tendency to outsource recurring activities. Conversely, non recurring activities tend to be internalised.

The difficulty of performance measurement

According to WILLIAMSON (1991, p. 79), the difficulty of performance measurement between parts does not encourage resorting to external transaction. As a system of management and total control of physical and informational flows, logistics is a complex process, due to the physical operations and the multiple actors who revolve around this activity (THEBAULT, TILMONT 2000). This complexity often means the customer finds difficult to establish his definite needs, the level of performance expected, and so on, so that drafting a contract will often be long and difficult. Moreover, this impossibility foresee everything, particularly when uncertainty is high, will inevitably induce hidden costs (AUBERT et al. 2002) which result from non-fulfilment of contracts and can prove very heavy in the logistic field. Among the various logistic activities, some are easier to check than others. According to PACHÉ and SAUVAGE (1999, p. 108), some physical logistic activities are commonplace, but others such as inventory control, order preparation and sending, constitution of promotional batches (Co-packing), labelling and so on, are more complex modular components, requiring real logistics knowledge and are more difficult to control. This is partly due to insufficient measurability from an accounting point of view (PACHÉ 2002). Thus, in accordance with in the T.C.E, activities which are more complex to control should be integrated. In order to establish our assumption stating that this dimension of the characteristics can influence the choice of governance of a transaction, we asked the outsourcers and TPL interviewed to award our various segments a degree of complexity. These “grades” allowed us to complete formulation of **Proposition 4**:

H4. The nature and multiplicity of the actors who intervene along a logistic chain make this process more or less complex to manage according to the activities which make it up. To measure and control the performance of these activities is therefore more or less complicated. Theoretically, we should observe a tendency to insource logistic activities which are complex to measure and control: quality control, order preparation and sending, planning and organization, financial services, transformation and Supply Chain. Conversely, support activities: transport, storage, packing, labeling and bagging, should be outsourced.

The T.C.T inspired four testable propositions. However, while being focused on the economic aspect, this theory provides only a partial answer to the problem. This is why, the concepts relating to the inherent activities of core competencies and those inherent to the performance differential stemming from the theory of resources have made for a better taking into account of the economic dimensions of the decision-making process. Moreover, as it takes the quality of the resources and competences accumulated in-house into account (DUMOULIN, MARTIN 2003), this current includes a dynamic dimension through striving for long term efficiency (BENSEEBA 2002, p. 300), which is ignored by transaction costs economics.

Contributions of the resource theory to the logistic outsourcing decision-making process

Focus on Core competence

According to BARNEY'S model (1991), five conditions are necessary for logistic activities to constitute resources with an underlying durable competing advantage: their value and scarcity, the difficulty of imitating them, of transferring them and finally of substituting them. Compared with the other types of resources the firms can call upon, some logistic resources seem to us to have several of the stated theoretical attributes:

– value: more than all others, some components of the logistic chain can prove to be contingent resources, i.e. skills, knowledge and know-how which are only applicable in a given firm. By organizing an effective combination of a flow triptych, or even by taking part in production in Co-manufacturing operations or customer service, logistic activities become creative of value and generators of efficiency (CHRISTOPHER 1998, GUILHON, HALLEY 1997). It is also through customer satisfaction that logistics entails a competing advantage for the firm (MORASH, et al. 1996, OLAVARRIETA, ELLINGER 1997). Indeed, with the standardization of the products offered on the market, service to and satisfaction of the consumer are becoming the differentiation criteria strongly influenced by logistics know-how (CHRISTOPHER 1993);

– scarcity derives from the complex combination of specific credits of various nature necessary to the operation of logistics such as some specialized equipment, organizational routines, know-how, competence and experience. Some authors also include interpersonal relations, which are long and difficult to maintain and develop by imitation (OLAVARRIETA, ELLINGER 1997, GAMME-LGAARD, LARSON 2001);

– logistic resources are not easily imitable and transferable: it is the case in particular for the sophisticated information systems of a logistics industry

having to honor increasingly demanding requirements and specifications. Because of causal ambiguity, it is difficult (and expensive) to copy these systems which were created and cemented in a complex tangle of isolated individuals or networks (FERNANDEZ et al. 2000). To work out and control these systems, logisticians require specific knowledge. The experience accumulated in a logistic know-how more and more integrated by companies which regularly question their logistic processes is becoming a source of competitive advantage.

H5. The activities of a logistics chain present features of various strategic importance. A tendency to outsource components of low strategic intensity: transport, storage and of warehousing should be observed. Conversely, a tendency to insource the components of strong strategic intensity should be noted: packing, labeling and bagging, planning and organization, transformation, order preparation and sending, quality control, financial services and Supply Chain.

Performance differential

According to GUILHON and HALLEY (1997), logistics can become a “strategic instrument of improvement and development of the performance”. In other words, logistics creates added value which according to LYNN (1998) is generated by interactions between financial, organizational and intellectual resources of the company. In our research, we primarily retained the collective phenomena of training which contribute to the logistic performance of the firm. They are vectors of competence, tacit resources which can;t easily be imitated and generate a competing advantage (REIX 1995, WINTER 1987, NELSON, WINTER 1982). As GRANT (1991) underlines, to become a distinctive skill, each resource should be considered as a “combination of resources” rather than on their own, distinctive skills thus result from a body of skills possessed by the staff in, or even between the organization and its partners (BLACK, BOAL 1994). The logistics which was defined as a transverse step of control and management of physical and informational flows is at the heart of training processes (HALLEY 1999).

Proposition 6 follows:

H6. The performance of the various components of the logistic chain requires specific skills. A tendency to outsource the components for which the company does not hold these specific skills should be observed. Conversely, a tendency to internalize the logistic components for which the firm holds the skills, thus ensuring the best performance, should be noted.

Contextual Propositions

Three organizational propositions relating to the size, logistics structuring and qualification level of the firm have been chosen to improve the final research model for their relevance in our approach to the research, after a study of the literature and an analysis of exploratory interviews. It is a question of determining whether or not these variables exert a direct influence on the decision to out-or insource logistics (H7, H8, H9).

H7. The Decision of outsourcing all or part of logistic activities should be influenced by the size of the company. Thus, large firms would have a more important propensity to outsource than small companies.

H8. The Decision of outsourcing all or part of logistic activities should be influenced by Level of structuring of the logistic function. Thus, Companies having a high structured logistic function would have a more important propensity to externalize physical logistics activities (Transport, Storage, Warehousing, Preparation of orders and Sending).

H9. The Decision of outsourcing all or part of logistic activities should be influenced by the competence level of the company. Thus, companies having a high competence level would have a more important propensity to externalize physical logistics activities (Transport, Storage, Warehousing, and Preparation of orders and Sending).

Empirical study

A triangulated methodology was adopted: exploratory study through interviews and questionnaires sending. The exploratory study consisted of five talks with company managers in the industry and as many T.P.L. It brought "bubbles of meaning" to the statistical treatment resulting from the quantitative analysis the methodology of which is described below.

Methodology

Data Collection

A survey was sent to the 850 companies which make up the French dairy industry, in the first semester of 2005. The dairy industry is one of T.P.L.'s main customers. It is the second agribusiness industry in France in terms of sales. The dairy industry, distributed on the whole of the territory, includes 700 sites of dairy transformation providing nearly 60 000 jobs. The number of

workers ranges from less than twenty to several thousand. Several firms are of international size and four rank among the top ten European companies in the industry, and the top twenty in the world: Danone (4th), Lactalis (8th), Bongrain (14th), Sodiaal (17th). This branch belongs to an industry which has undergone major technological and social changes: between 1984 and 1998, the industry lost 25% of its manpower due the need for increased productivity but also as a result of increased automation of production and conditioning as well as a tendency to concentration through fusions occurring during the same period. It is especially the case in the milk branch where 70% of the milk is collected by only six great groups, three of which (LACTALIS, CLE BON-GRAINS and SODIAAL) have a sales turnover of more than three billions. Finally, outsourcing certain operations including logistics has also consolidated this trend (Girard & Al, 2002). A total of 105 questionnaires were returned (102 of which were exploitable), which is a 12% return rate. This rate is correct and usual in this type of investigation.

Measurement of the variables

The indicators were created taking the literature and investigation interviews as starting points. The process of measurement of the variables lay within the scope of the widespread paradigm of Churchill. The various scales were purified through main component analysis; Cronbach's alpha with Varimax rotation was systematically used in order to check the reliability of the variables. These various analyses fixed the measurement of the independent and dependent variable groups.

Independent variables

The ACP STATE carried out on the group of explanatory "economic" variables made it possible to isolate six méta-variables, whose Alpha coefficient oscillates between 0.911 and 0.814. The same analysis carried out on the group of explanatory "strategic" variables generated four méta-variables with Alpha values ranging between 0.733 and 0.696. As for the last group, the "organizational" variables, the ACP STATE eliminated the size criterion to only keep the qualification level of the firm (Alpha = 0.865) and the logistic structuring with Alpha = 0.874. After the purification analyses, the final matrix of the explanatory méta-variables includes twelve axes.

The ACP STATE carried out on the nine variables corresponding to the outsourcing choice converged along three axes, the first two of which explain nearly 74% of the variance. The first axis F1 indicates that the whole logistic under activities are subject to a more or less significant outsourcing. Axis F2 is

Table 1

Meta Variables Matrix

Groups of Variables	Meta Variables and their components
1. Economic (TCE issues)	<ol style="list-style-type: none"> 1. Specificity. Difficult rehabilitation (ECOF1) 2. Frequency, Recurrence of activities (ECOF2) 3. Uncertainty of activity and demand (ECOF3) 4. Lawful Uncertainty and of difficulty of recruitment of employees (ECOF4) 5. Activity level (ECOF5) 6. Difficulty measurement performance (ECOF6)
2. Strategic (R.B.V. Issues)	<ol style="list-style-type: none"> 1. Contribution of logistics to profitability of the firm: industrial or commercial activities (STRATF1) 2. Contribution of logistics to profitability of the firm: transport and secondary activities (STRATF2) 3. Contribution to competitive advantage of the firm: industrial or commercial (STRATF3) 4. Contribution to profitability and competitive advantage of the firm: management and Supply Chain activities (STRATF4)
3. Organizational	<ol style="list-style-type: none"> 1. Qualification level of the firm (ORGF1) 2. Logistic Function structuring (ORGF2)

correlated negatively with the following components: transport, storage and warehousing, conditioning and packaging and order preparation: in fact these activities are outsourced most often and most invariably. The axis is correlated positively with the following variables: quality control, planning and organization, financial services, Product transformation and supply chain. Axis F2 thus supplements the information of axis F1 by dissociating governance modes: outsourcing of physical activities. Axis F3 is correlated negatively with very little outsourced activities: quality control, organization and planning, financial services and product transformation. Axis F3 is interpreted as supplementing the information of F1 by dissociating governance modes: outsourcing of non physical activities. The supply chain activity, which is not outsourced, was discarded as the values taken were aberrant and were likely to muddle the other results. In order to study the influence exerted by the various méta-variables (independent) on the choices, step-by-step regression was used.

Table 2
Results of Analysis of regression analysis on the meta-variables resulting from the APC ($n = 102$)

Independent Meta-variables retained by stepwise regression analysis	Dependent Meta-variables Values of the standardized coefficients	
	Physical Activities M1	Activities of logistics Management M2
ECOF1: Assets Specificity	0.250	0.495
ECOF2: Frequency, Recurrence of activities	N.R.*	N.R.*
ECOF3: Uncertainty activity and demand	-0.330	0.356
ECOF4: Lawful Uncertainty and of recruitment of employees	0.501	-0.187
ECOF5: Frequency: importance of level of activities	0.387	N.R.*
ECOF6: Difficulty measuring performance	N.R.*	-0.219
STRATF1: Logistic Contribution to the profitability of the firm: activities of logistics Management	N.R.	N.R.
STRATF2: Logistic Contribution to the profitability of the firm: physical activities	N.R.	-0.479
STRATF3: Contribution to the competing advantage	-0.330	0.356
STRATF4: Contribution to the competing advantage and the profitability of the firm	N.R.*	N.R.*
ORGF1: Level of competences of the firm	N.R.*	N.R.*
ORGF2: Structuration of logistics function	N.R.*	N.R.*
Values of B (Non standardized coefficients) with $P < 0.05$ (5%) * N.R. Non retained		
Recapitulative values of models		
R	0.650	0.863
R^2	0.423	0.745
Adjusted R^2	0.370	0.701
Variation of R^2	0.057	0.018
F	8.057	17.097
Variation of F	4.742	2.871
Anova	0.00	0.00
Tolerance Value	0.998	1.000
VIF(Variance Inflation Factor)	1.002	1.000

Results

The influence of the economic, strategic and organizational factors on the choices of logistic outsourcing

In the two models (M1 and M2) resulting from the analysis of regressions, twelve explanatory meta-variables resulting from the preliminary ACP STATE were introduced to “explain” a dependent variable: outsourcing. With a 5% significance threshold, model M2 (Outsourcing of management activities) provides a “better” explanation than M1: the adjusted R^2 (Outsourcing of physical activities M1) explains 70% of the variance of the dependent variable,

against 37% for M2. The results the Anova, Tolerance and SHARP tables show values indicating that the explanatory variables are not correlated with each other, confirming the good quality of the models.

Outsourcing of physical activities: the dominating Influences

Concerning the outsourcing of physical logistic activities, the equation resulting from the analysis of regressions is: 0.50ECOF4 (Uncertainty of regulations and of hiring staff) + 0.39ECOF5 (Frequency: importance of the level of Activity) – 0.33STRATF3 (Contribution to competing Advantage) + 0.25ECOF1 (Specificity: expensive rehabilitation). The results point to a dominating influence of the variables resulting from transaction costs economics: uncertainty of regulations, Frequency of the activities, Specificity: expensive rehabilitation. Strategic variables are absent apart from STRA F3 (Contribution to competing advantage) which has a negative value: for the managers, support activities do not provide a greater competing advantage. The results concerning the organizational variables are not conclusive of a direct link with the choices. However, moderating effects exceeding the scope of this study could come into play.

Outsourcing of management activities: the influences guiding the choices

The analysis of regressions introduced seven méta-variables out of twelve. Adjusted R^2 indicates that the model explains 70% of the variance. The following equation results from this: Outsourcing of the activities known as logistic management = 0.495ECOF1 (expensive and difficult Rehabilitation) – 0.479STRATF2 (logistic Contribution to the profitability of the firm) + 0.356ECOF3 (Uncertainty of activity and demand) – 0.219ECOF6 (Difficulty of performance measurement) + 0.208STRATF4 – 0.187ECOF4 (Uncertainty of regulations and of hiring staff) – 0.134STRATF3 (Contribution to competing advantage) the choice of allowance is dominated by the economic dimension and the attributes: Expensive and difficult rehabilitation, Uncertainty of activity and demand, Difficulty of performance measurement, Uncertainty of regulations and of hiring staff, stick out. However, strategic considerations, particularly “Contribution to competing advantage and the profitability of the firm” have a greater influence than for basic activities.

Proposition tests

Considering the validation tests, only proposition 3 (Frequency of activities) is validated for physical activities. For management activities, the results are mostly consistent with the theoretical propositions laid down at the outset.

Table 3

Research hypothesis and empirical support obtained

Hypothesis	B : Non Standard. Coefficient	Standard Error	t Value	Supported
H1. Assets specificity – Physical Activities – Activities of logistics Managt	0.252 0.503	0.116 0.080	2.178 6.275	rejected all Activities
H2. Lawful Uncertainty and of recruitment of employees – Physical Activities – Activities of logistics management Uncertainty activity and demand – Activities of logistics management	0.506 -0.189 0.361	0.121 0.080 0.080 0.080	4.167 0.080 4.511	confirmed for activities of logistics management
H3. Frequency (Importance Level of activity) – Physical Activities	0.390	0.119	3.285	confirmed Physical activities N.R. activities of logistics management
H4. Difficulty of measuring performance – Activities of logistics management	-0.222	0.080	- 2,777	confirmed activities of iogistics management N.R. physical activities
H5. Statagic Importance				N.R. all activities
H6. Competitive Advantage	-0.136	0.080	-1.694	confirmed activities: packing, financial prestations and transformation products. N.R. others activities
H7. Size H8. Level of structuration logistics function H9. Level of competences of firm				non direct influence

Main goals of research

The main goal of this paper was to understand the influence of certain economic, strategic and organizational factors on the decision-making process. In addition to the theoretical contributions, the main results obtained from our statistical analyses and supplemented by the qualitative interviews held with logistic managers suggested several implications for managers.

Theoretical contributions

They result primarily from the application of transaction cost economics to the “make or buy” decision in a little explored field. The results indicate that, apart from for the “Frequency” attribute, the theory was not verified for the physical, and therefore peripheral, activities. These results match those of MURRAY, KOTABE (1999) in Information Systems Outsourcing.

Implications for managers

Elementary statistics relating to outsourcing of activities show that support activities (transport, storage and warehousing) are the most outsourced. This choice is made mainly for economic reasons. These results, strengthened by the qualitative interviews, enabled us to list the risks related to outsourcing and put forward strategies and other

measures of reducing or even avoiding these risks (*See table 4 below*). As for outsourcing management activities, the question of “why not” comes spontaneously to mind... The components of management and S.C.M., usually externalized in the U.S., are primarily insourced. The more strategic and complex to manage the components are, the less outsourced they are. Outsourcing becomes a decision of core management which relates to the company’s business and its perimeter of activity. That’s why there are so many risks. Contextualization greatly contributes to this position. Because of a strong belief in the industry’s heritage, dairy industrialists, who supply products intended for human consumption, do not wish to entrust the supply chain management activities, which are very close to their products and therefore to the customer, to a TPL, even a very experienced one. As interviews and regression analyzes suggest, management activities contribute more to the competing advantage and the profitability of the firm than support activities do. The risk of losing collective skills, expertise accumulated over the years on quality, know-how, image and so on, through outsourcing is too high, all the more so as “you cannot write everything in a contract”... Unlike in Anglo-Saxon countries, people management is preferred to contract management by far! “Noble” logistic activities are also maintained in-house because reinstating them would be difficult (“impossible” according to some managers) and crippling in cost. The ghost of change management is all too real and foreseeable organizational disorders put managers off right from the start. All these considerations, confirmed by the results, get in the way of many writings which assimilate European logistics outsourcing practices to Anglo-Saxon practices... Outsourcing finally implies a change in the philosophy of business

to avoid a detrimental “organizational decline”. Indeed, entrusting an activity to someone outside the company does not mean giving it up; the client is still managing his resources, but in a different way. To be unaware of this would be to expose oneself to definite management disorders.

Table 4
Reasons, risks and avoidance strategies of externalisation

Reasons for outsourcing physical activities	Induced risks	Risk reduction and avoidance strategies
1	2	3
Economic (TCE)	latent opportunism of the TPL, contractual information asymmetry, uncompleted contracts involving overcosts, hidden or unforeseen costs, ... dependence	knowing the identity of the selected TPL perfectly well being extremely vigilant about newcomers entering the TPL market being rigorous when drawing up the contract: price and performance control clauses, or building a long term relationship based on confidence, well-trying interpersonal relationships ... taking contract negotiation costs and the partner's service control into account providing for effective arbitration clauses in the contract, in case of litigation. defining service quality indicators precisely setting up rigorous management control (making sure that IS are compatible) having extensive in-house legal expertise or calling upon external expertises defining rigorously which activities to out-source and which to keep in-house foreseeing situations which may result from the state of dependency between parties: staff morale or frustrations which might prove detrimental to smooth exchanges
Transfer of the constraints related to the variation of consumer demand	provider incapacity	evaluation of TPL : making sure that the TPL has sufficient means (human and physical) to cope
Transfer of health and regulation constraints to the TPL	incapacity, opportunism of the provider loss of expertise organizational Decline	evaluation of the supplier maintaining a safeguard structure: preserving minimal in-house competence to avoid total loss of expertise and problems related to opportunism (hidden or incomplete information,...) setting up strict follow up and control (for perishables intended for human consumption)

cont. table 4

1	2	3
Transfer of social Constraints	social risk: change in work relations deterioration of the social climate, collapse of the work community, loss of the sense of group work	setting up ex ante adequate communication a dialogue with the employees concerned making sure the TPL looks after the transferred employees' career
Transfer of the investment burden of (refrigerated trucks, forklifts, storage areas.) to the TPL	incapacity, incompetence of the TPL loss of expertise and skills	checking of the financial stability and durability of the TPL maintaining minimal in-house competence negotiating preliminary dialogue on and a say in equipment choices choosing key resource persons both in-house and in the TPL
Transfer of the problems related to product quality and customer service	provider incapacity depreciation of brand image and reputation, loss of customer trust interdependence of activities: depreciation of brand image and outsourcer's reputation dilution of responsibilities cultural Inadequacies with the TPL inefficiency of the working relationship between parties	making sure of the TPL's expertise in this field checking the TPL's good reputation requiring references from other clients and skill demonstration identifying the links which may exist between the activities to outsource and those to be kept in-house provide mechanisms for optimal coordination between activities clearly defining respective responsibilities and obligations between outsourcer and TPL, (even the TPL's subcontractors) making sure the TPL has a compatible culture (quality, H.R...) preliminary meetings between managers, joint training courses.

Limits and future research

Our conclusion aims to present the limits and prospects for open research. This study's theoretical limit primarily lies in the choice of theories, as the decision to outsource is extremely complex (BALDWIN et al. 2001, HOOD, STEIN 2003). Thus, the currents involved are unaware of many aspects of this protean decision. Risk also derives from this complexity, all the greater as the entrusted activity is strategic, as the results of this study have shown. Methodological limits are linked to the questionnaire (the number of questions was deliberately limited so as not to take up too much of the managers' time) and the combination of "measurements" of the attributes resulting from the TCE or inspired by the Resource Based View. Besides, the respondents may have got confused, thus muddling up the results. A degree of uncertainty is related to

the quality of the measurement of transactional variables, which are abstract concepts or concepts which the canvassed companies don't master. The same interrogation applies to the strategic variables; indeed, the deficiency of the empirical tests led us to build most evaluation criteria.

Logistics remains a heuristic field neglected by researchers (PACHÉ 2002). However, many phenomena lead to future reflection. For example, is the current wave of insourcing symptomatic of failed outsourcing operations? Or are there other underlying reasons, and if so what are they? Similar questions may be asked about delocalizations towards emergent countries....The increase in spot transactions related to the fast development of E-Business is another example. With the appearance of new actors and new organization modes (REGAN, SONG 2001), how do we categorize this new type of transaction? Which are the sources and transaction costs accompanying them? What are the risks for the customers?

Research would greatly benefit from being undertaken in different branches of industry and from taking into account recent phenomenon of sustainable development which lead to new questionings and great organizational reconsiderations.

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