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**INTERNATIONAL COMPARATIVE STUDIES
OF CONSUMPTION IN CONDITIONS
OF THE EUROPEAN INTEGRATION
– SELECTED ASPECTS**

Introduction

Integration processes facilitate and accelerate diffusion of information on consumption standards on an international scale, and as well create a set of new conditions in the consumption sphere and contribute to the process of consumption convergence. Subsequently, social and economic transformation processes, taking place in nineties of the 20th century, led to creation in the countries aspiring for accession to the Union conditions (economic, social, market and legal) favourable for bringing consumptions existing in these countries closer to the consumption typical for societies of highly developed countries of Western Europe.

The objective of this study is to present selected aspects of international comparisons in the extent of consumption exemplified by Poland, the Czech Republic and countries of the so-called “old European Union”. Investigation of a consumption level, structure and changes in an international cross-section on the background of changes taking place in the surroundings of consumption subjects constitutes rich and objective basis for evaluation of consumption in the individual countries, and thus is a valuable source of information for decision-making needs at all levels of management, both in a macroeconomic and microeconomic sphere. International comparisons of consumption undoubtedly constitute a good basis for prediction of directions of consumption development and as well for indicating its specific nature in individual countries.

1. Importance of international comparative studies of consumption

International comparisons of consumption could be used for evaluation of the initial condition in the field of consumption (in various cross-sections) in a given country on the background of consumption in other countries, for prediction of directions of consumption transformations in a given country on the basis of changes observed in the countries having higher levels of economic development and for construction of measures of consumption in the form of standards.

The purpose of international comparative studies of consumption is to know the status of consumption in the past, at present and in the future, owing to which one could better know regularities governing the sphere of consumption. International comparisons of consumption find their application in all the phases of the research process (diagnosis, prognosis, modelling) as well as in all research cross-sections (subjective, objective, spatial). International comparative background obtained owing to the comparisons gives some possibility for enrichment and objectivisation of assessment of consumption status as well as of processes and mechanisms governing

this sphere, useful both for macro and micro scale. International comparisons provide information on evolution of phenomena in the sphere of consumption in leading countries, enabling thus – upon providing for additional assumptions – to formulate predictions related to evolution of these phenomena in less developed countries (e.g. new countries accessing the EU). The need for conducting comparative studies in the sphere of consumption gains specific importance in the period of accession of less developed countries into the structures of the European Union, because it enables to evaluate degree of convergence or divergence of the countries being compared in this extent.

2. Methods applied in international comparative studies of consumption and their constraints

Measurement of spatial configuration of consumption is characterised by quite clear distinguishability by subject and methodology. Space is here a multi-dimensional object with fairly differentiated internal structure. Selection of methods is subordinated above all to research issues and targets. The basis for conducting research in an international scale is possession of complete and comparable statistic material.

However, variety of data available from secondary sources might be only illusory. Among difficulties related to utilization of secondary sources in international comparative studies, the following ones occur: limited availability or lack of some types of information, limited comparability resulting from various methodologies of data collection, aggregation and classification as well as from different frequency of conducting certain types of research, limited accuracy of data resulting from difficulties related to the measurement as well as cultural or economic specificity of various countries (e.g. problems related with estimation of the so-called grey zone), limited correctness of information resulting from the fact that the information is collected for other purposes and does not correspond to research targets and issues, limited validity resulting from the fact that the time span between collection of information and its publishing is often very long, and limited reliability of information.

Moreover, international studies of consumption face additional complications related to uniformity and comparability of studies, pertaining to: differences in cultural customs, preferences and traditions as well as in lifestyle in countries being compared, qualitative differences of consumer products and services being purchased in the individual countries, differences in the institutional and organisational solutions, e.g. in the extent of rendering services in the countries being compared (market and non-market services, gratuitous services, partially non-gratuitous services, collective services), problems with conversions of currencies (currency selection) for the purpose of transition to common currency and others (Karcz, 2004).

In consumption research various research methods are applied, selection of which is dependent on purpose and the adopted scope of research. Basic methods of consumption research (being also utilized in international comparative studies of consumption) include the following ones: statistical methods (time series, numerical characteristics – averages, measures of variability, measures of asymmetry, measures of concentration), econometric methods (e.g. models of development tendencies, autoregression models, causative and descriptive models) as well as discriminative methods (taxonomic methods and so-called factor analysis) (Bywalec and Rudnicki, 2002).

Group of methods most widely and commonly used in consumption studies include statistical methods that involve an extremely rich arsenal of means and possibilities. Their basis is statistical data obtained from suitable sources. Statistics is collecting and ordering data. It provides quantitative information on the phenomena under investigation, as well as on their dynamics, proves existence or non-existence of various regularities and relations. Very generally speaking, research in time and space may be conducted by means of simple and complex methods. Simple methods are utilized most frequently for the purpose of initial recognising of a phenomenon and for finding out the existing spatial differentiations of market components. However, in order to investigate more complex regularities one should apply compound methods that include taxonomic methods.

3. European integration and processes of globalisation as a set of new conditions of consumption

After nearly twenty years of system transformations in the countries of Middle and East Europe it was possible to notice a clear relation between changes undergoing in macroscale and at the level of households, effect of which are changes in consumption. Changes in the level and structure of consumption over the years under consideration are composed of the following phenomena: changes within basic factors determining development of consumption and their force of influence (e.g. within economic, social, etc. factors), appearance of new, thus far unknown and not identified or not existing, factors and conditions of consumption (e.g. new tendencies and phenomena in consumption, development of communication systems and increased transfer of information, effect of international imitation, development of information society, etc.) as well as creation of a new consumer (among other things due to: education, marketing propaganda, opening to the world, etc.).

Integration processes in Europe are an important, but not a sole set of factors influencing consumer behaviour and its market choices. Influence of globalisation processes that cover still new and new countries, domains and areas of human activity, becomes clearly pronounced. Globalisation is a qualitative change of the contemporary

life in which all other changes being its causes, conditions or effects concentrate. With regard to consumption and consumer behaviour, it is difficult to diagnose, assess and unambiguously predict directions of influence, effects and force of influence of the globalization processes.

These processes overlap influence of integration processes, condition and intensify each other, and consequently it is hard to differentiate and select them in the context of influence on the consumption sphere. Arrangement of “new” conditions for development of consumption may be presented in the following groups: demographic conditions (drop of population growth, migrations, ageing society, elongation of population’s life expectancy, transformation in functioning of a family, disintegration of the traditional family structure, an increase in women’s professional activity, the role of children in decision-making on purchase, etc.); cultural conditions (new values in consumption, new consumption targets, an increase in demands, change of layout of preferences, ethics and individualism in consumption, change of consumer mentality and awareness, increased importance of qualitative consumption aspects, increased importance of free time); technological conditions (e.g. development of different forms of communication including interactive communication in particular, new forms of sales, development of biotechnology, and ecological attitudes of consumers and producers); economic conditions (e.g. increase of competition, change of rate of economic growth, change of purchasing power of population, polarization of income, or development of private ownership).

New determinants of consumption as well as of market behaviour of consumers, occurring as effects of integration and globalisation processes, take on the form of factors:

- universal (typical), shaping attitudes and decisions of selection in similar direction and sometimes also with similar intensity in very many countries (e.g. demographic, economic, psychological factors);
- specific for individual countries, e.g.: traditions, experience, transformations in economic, political and social structure, integration processes in Europe, etc. (Kusińska, 2000).

4. Consumption in Poland and the Czech Republic in the European Union – selected aspects of comparisons

In order to compare consumption structure in the international cross-section in this part of the study, a ratio in form of a percentage share has been applied as an index of consumer expenses structure that reflects directions for spending income by the consumers. Results of transformations in consumer choices being made in the microscale, i.e. in the individual households, undoubtedly reflect the tendencies of con-

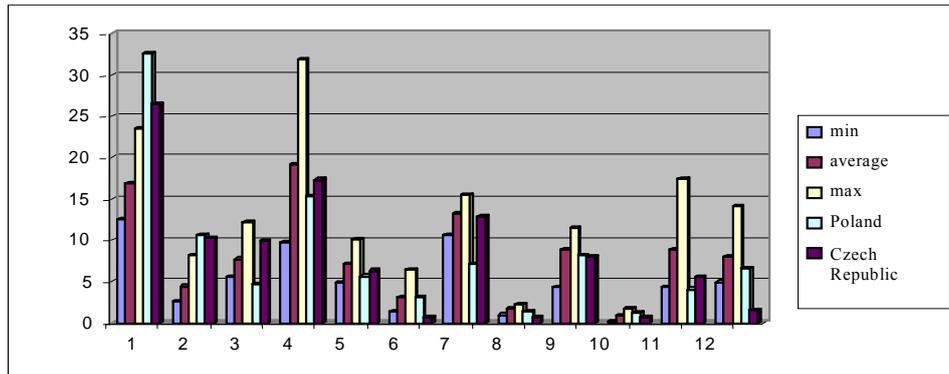
sumption structure changes in the macroscale. Within the confines of comparisons of consumer expenses structure: disproportions of consumer expenses structure between Poland, the Czech Republic and countries of European Union were defined, a degree of variability of consumer expenses structure indices over time in the countries being compared was evaluated, countries were ordered with regard to a synthetic measure of development calculated by means of the Hellwig's standard method, "countries-models" and "countries-shadows" were identified among the countries being compared, and also some possibility for convergence of consumption structure in the countries being compared was investigated. Achieving of the specified partial targets enabled to define position of selected countries, i.e. Poland and the Czech Republic in terms of consumption structure within the space of the European Union, and thus indicate possibilities and directions of changes in this extent.

4.1. Comparison of the consumer expenses structure indices in Poland and the Czech Republic with the EU countries in the selected years

For the purpose of comparisons and in order to determine general tendencies for changes in consumer expenses structure in Poland and the Czech Republic in the selected years these expenses were referred to average values of the individual share ratios in the countries of the European Union. Such an assumption does not exclude the presence of different tendencies of changes in this field in the individual countries of the Union, therefore the adopted interpretations and conclusions should be treated with special caution. In the Diagrams 1 and 2 comparison was made of consumer expenses structure in Poland and the Czech Republic in 1990 and 2005 versus minimum, average and maximum values in the countries of the European Union (countries of the so-called "old Union" excluding Luxemburg).

While comparing structure of consumer expenses by purpose in 1990 in Poland, the Czech Republic and EU-14 countries (Figure 1) one may notice, that in a majority of cases, share ratios of consumer expenses on individual purposes in Poland and the Czech Republic did not exceed maximum values of the ratios in the EU countries. Exclusion only constitutes expenses on food and alcoholic beverages and tobacco that in Poland and the Czech Republic take on distinctly higher values. In case of expenses on such purposes like housing and energy carriers, household equipment and services, health, and holiday and recreation, indices for Poland and the Czech Republic are getting closer to the Union's average, while in terms of the share ratio of expenses on transport, hotels and restaurants Poland stays apart (in minus) not only from the Union's average but also from the Czech Republic. The share ratio of expenses on food in total expenses is related to the level of economic development of a given country. The share ratio of expenses on food in total expenses was in Poland

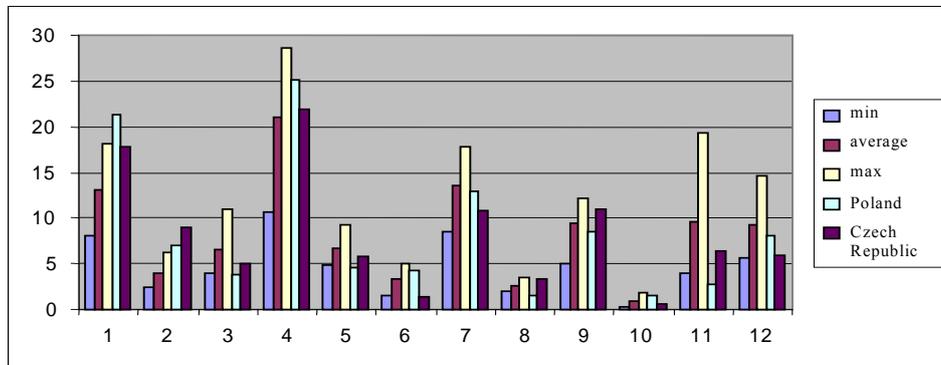
several percentage points higher than in the Czech Republic. It is worth reminding, that such a high level of expenses on food in Poland in this period could also have been conditioned by a high increase of food prices in the initial period of transformation (an increase in food prices in the Czech Republic in the initial period of transformation was not as much acute as in Poland).



Key: 1 – food and non-alcoholic beverages, 2 – alcoholic beverages and tobacco 3 – clothing and footwear, 4 – housing and energy usage, 5 – household equipment and services, 6 – health, 7 – transport, 8 – communication, 9 – holiday and recreation, 10 – education, 11 – hotels and restaurants, 12 – other goods and services.

Figure 1. Comparison of the percentage structure of consumer expenses in Poland and the Czech Republic with minimum, average and maximum values in the EU-14 countries in 1990

Source: Based on: Euromonitor (2007).

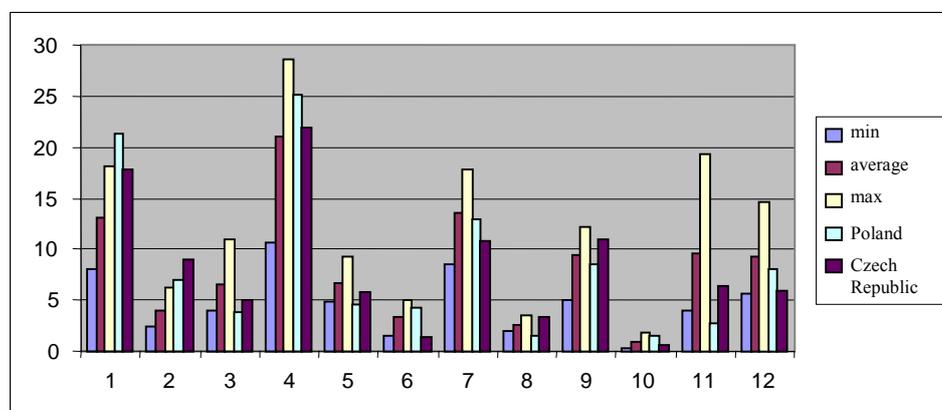


Key: 1 – food and non-alcoholic beverages, 2 – alcoholic beverages and tobacco, 3 – clothing and footwear, 4 – housing and energy usage, 5 – household equipment and services, 6 – health, 7 – transport, 8 – communication, 9 – holiday and recreation, 10 – education, 11 – hotels and restaurants, 12 – other goods and services.

Figure 2. Comparison of the percentage structure of consumer expenses in Poland and the Czech Republic with minimum, average and maximum values in the EU-14 countries in 2005

Source: Ibid.

In 2005 (Figure 2) situation in Poland and the Czech Republic, with respect to share ratio of expenses on food, did not change much. Poland still reported the highest share ratio of expenses on food, while the Czech Republic – the highest ratio of expenses on alcoholic beverages and tobacco. However, ratios of expenses on housing and energy carriers in Poland and the Czech Republic increased as compared to the Union’s average. Moreover, the share ratio of expenses on holiday and recreation in Poland was much lower than the Union’s average and also that the one in the Czech Republic. Poland also wandered away from the Czech Republic and other Union countries in case of the share ratio of expenses on hotels and restaurants (Poland reported the lowest ratio). However, in 2005 the Czech Republic achieved the share ratio of expenses on hotels and restaurants higher than the Union average (Poland reported this ratio to be much lower than the Union average).



Key: 1 – food and non-alcoholic beverages, 2 – alcoholic beverages and tobacco 3 – clothing and footwear, 4 – housing and energy usage, 5 – household equipment and services, 6 – health, 7 – transport, 8 – communication, 9 – holiday and recreation, 10 – education, 11 – hotels and restaurants, 12 – other goods and services.

Figure 3. Comparison of the forecasted percentage structure of consumer expenses in Poland and the Czech Republic with minimum, average and maximum values in the EU-14 countries in 2015

Source: Ibid.

Forecasts for 2015 (Figure 3) show that the share of expenses on food and non-alcoholic beverages in Poland is not likely to fall below 20 %. The Czech Republic will still enjoy the highest share of expenses on alcoholic beverages and tobacco. In Poland this share ratio will also be much higher than the maximum value in the EU-14 countries.

4.2. Evaluation of variability of the consumer expenses structure in the countries being investigated

The aim of international comparisons was also to evaluate the degree of variability of the ratio under consideration over time, i.e. the structure of consumer expenses in the countries being investigated by means of variance (see Table 1).

Table 1

Variations for percentage structure of consumer expenses by purpose in countries of the European Union and in Poland and the Czech Republic in selected years

Description	Year					
	1990	1995	2000	2005	2010	2015
Food and non-alcoholic beverages	26.85	19.77	11.80	11.71	12.66	12.57
Alcoholic beverages and tobacco	6.16	4.06	3.15	2.53	2.84	3.80
Clothing and footwear	3.85	2.46	2.78	2.99	2.60	2.27
Housing and energy carriers and usage	27.41	25.42	20.87	21.55	18.00	17.91
Household equipment and services	1.76	1.94	1.56	1.35	1.31	1.18
Health	1.47	1.26	0.96	0.98	0.95	0.96
Transport	4.80	4.11	4.62	4.08	4.59	5.43
Communication	0.15	0.09	0.22	0.37	0.40	0.47
Holiday and recreation	3.88	3.72	4.35	4.63	4.56	4.36
Education	0.16	0.26	0.24	0.20	0.22	0.22
Hotels and restaurants	12.15	20.05	21.50	22.11	22.57	23.19
Other	7.30	4.70	5.37	5.12	6.05	5.74

Source: Ibid.

Measures of variability take on different values both for a component of expenses under consideration as for the selected year. The highest measures take place in case of expenses on housing and energy carriers, next on food and after that on restaurants and hotels. However, the lowest measures take place in case of expenses on: education, health, household equipment and communication and also on clothing and footwear.

One may notice that in the period under consideration values of variances for a majority of components of the consumer expenses structure are decreasing, except for expenses on communication, restaurants and hotels and holiday and recreation for which the measures of variability showed an increase. However, forecasted data show that these tendencies may change, i.e. after some initial decrease of variance values, in subsequent years of comparison values of variability measures will start rising again with regard to expenses on food, alcoholic beverages and tobacco and transport, all included in the group of basic goods. This would mean that the process of changes in this extent is not yet definitively completed.

4.3. Tendencies for changes of the consumer expenses structure in Poland and the Czech Republic on the background of tendencies in the EU countries

In order to determine general tendencies for changes of the consumer expenses structure in Poland and the Czech Republic in the years 1990-2005, evolution of average values of individual ratios in the countries of the European Union was adopted as a reference (see Table 2). Such an assumption does not exclude the presence of different tendencies of changes in this field in the individual countries of the Union, therefore the adopted interpretations and conclusions should be treated with special caution. It was observed that the structure of consumer expenses in the countries of the European Union in the years 1990-2005 was undergoing relative stabilization.

Table 2

General tendencies for changes of the consumer expenses structure in Poland, the Czech Republic and the EU-14 countries

Description	1995			2000			2005			General tendency in EU corresponding to average of EU-14	Conformity of tendency for changes	
	P	C	EU	P	C	EU	P	C	EU		P	C
1. Food and non-alcoholic beverages	-	-	-	-	-	-	0	-	0	0	no	no
2. Alcoholic beverages and tobacco	-	0	0	-	0	0	0	-	0	0	yes	no
3. Clothing and footwear	+	-	+	-	-	0	-	-	-	0	no	no
4. Housing and energy usage	+	0	-	+	+	+	+	+	+	+	yes	yes
5. Household equipment and services	0	0	0	0	0	0	0	0	0	0	yes	yes
6. Health	0	0	+	+	+	0	0	+	0	0	yes	no
7. Transport	+	0	0	+	0	+	+	0	0	0	no	yes
8. Communication	+	0	+	+	+	+	0	0	0	0	no	yes
9. Holiday and recreation	+	+	+	0	0	+	-	0	0	+	no	no
10. Education	0	0	0	0	0	0	0	+	0	0	yes	yes
11. Hotels and restaurants	0	0	+	0	0	0	0	+	0	0	yes	no
12. Other goods and services	+	+	+	+	0	+	-	0	0	+	yes	no

Designations: “-” decrease of value of share ratio of expenses in a given year compared to previous year/downward trend; “0” stagnancy of share ratio of expenses in a given year compared to previous year/no-change tendency; “+” increase of share ratio of expenses in a given year compared to previous year/upward trend; P – Poland, C – the Czech Republic

Source: Ibid.

A slight increase was reported in case of share ratios of expenses on housing and energy carriers, as well as on holiday and recreation and also included as “other” expenses. It was connected in general with changes of prices of energy carriers, rents, increased demand for energy, and also with change of consumers’ lifestyle. It is difficult to evaluate consistency of general tendencies for change in the structure of consumer expenses existing in Poland and the Czech Republic with these existing in the countries of the European Union because the structures in these countries undergo visible evolution while in the Union in general they become stabilized. We can assume with a high probability that structures of the consumer expenses in Poland and the Czech Republic show similar but postponed tendencies as the structures of the EU countries.

4.4. Evaluation of the consumer expenses structure with breakdown to basic goods and higher-order goods in the countries being compared

In the empirical research individual components of the consumer expenses structure in selected years and countries were classified into two groups: expenses on basic goods and expenses on higher-order goods. Expenses on basic goods include: expenses on food and non-alcoholic beverages, expenses on alcohol and tobacco products, expenses on clothing and footwear, expenses on housing and energy carriers as well as on transportation. Other expenses were included into the group of higher-order expenses (Table 3).

Table 3

Share ratios of expenses on basic goods and higher-order goods within the structure of the consumer expenses in the selected years in Poland, the Czech Republic and EU-14 countries

Country	1990		1995		2000		2005		2010		2015	
	A	B	A	B	A	B	A	B	A	B	A	B
Austria	56.26	43.74	63.40	36.60	53.57	46.43	53.05	46.95	53.70	46.30	54.71	45.29
Belgium	52.64	47.36	62.29	37.71	60.11	39.89	59.84	40.16	59.86	40.14	60.18	39.82
Denmark	55.81	44.19	65.08	34.92	62.53	37.47	62.41	37.59	60.63	39.37	61.14	38.86
Finland	63.14	36.86	64.53	35.07	61.89	38.11	60.26	39.74	58.57	41.43	58.28	41.72
France	62.65	37.35	62.35	37.65	61.25	38.75	61.06	38.94	61.72	38.28	61.62	38.38
Greece	64.22	35.78	59.88	40.12	57.92	42.08	59.20	40.80	59.38	40.62	60.03	39.97
Spain	55.96	44.04	53.55	46.45	52.17	47.83	52.16	47.84	51.92	48.08	51.33	48.67
Netherlands	56.36	43.64	56.00	44.00	52.79	47.21	52.38	47.62	51.69	48.31	51.47	48.53
Ireland	60.95	39.05	54.97	45.03	53.60	46.40	53.89	46.11	53.26	46.74	55.41	44.59
Germany	61.73	38.17	61.22	38.78	60.85	39.15	61.49	38.51	60.58	39.42	60.71	39.29
Portugal	62.15	37.85	60.04	39.96	58.43	41.57	58.08	41.92	58.02	41.98	58.40	41.60
Sweden	69.66	30.34	68.72	31.28	64.14	45.86	63.99	36.01	63.12	36.88	62.87	37.13
U.K.	54.97	45.03	54.35	45.65	52.65	46.35	52.35	47.65	53.91	46.09	54.08	45.92
Italy	61.19	38.81	60.54	39.46	58.28	41.72	58.68	41.32	58.37	41.63	58.98	41.02
Poland	70.7	29.3	70.6	29.4	66.1	33.9	67.8	32.2	71.5	28.5	71.3	28.7
Czech Republic	76.9	23.1	70.8	29.2	67.5	32.5	65.1	34.9	64.6	35.5	64.3	35.7

Designations: A – expenses for basic goods, B – expenses for higher-order goods

Source: Ibid.

In 2005 countries with the highest expenses on basic goods (ratio above 60%) included: Poland, the Czech Republic, Denmark, Finland, France, Sweden and Germany. Countries like Austria, Spain, Netherlands, Ireland and United Kingdom belong to countries with the ratio of expenses on basic goods at the level below 55%. However Greece, Portugal and Italy found themselves in the group with the ratio of expenses on basic goods in the range of 55-60%. High importance for evolution of these ratios in the individual countries was not only attributed to the achieved level of economic development that determined a decrease in the share of expenses on food and non-alcoholic beverages in total expenses, (and thus decrease in the share ratio of expenses on basic goods), but as well the level of prices. While making comparisons and evaluations of the share ratios of expenses on basic goods and higher-order goods in the structure of consumer expenses in the countries being compared, one has to have in mind that services related to health, education etc. are financed by the state. Adjusting expenses on these purposes by the share of state expenses would surely contribute to the change of the share ratio of expenses on higher-order goods in the countries, where households would have overtake on themselves the burden of financing for some sorts of services, e.g. health protection or education.

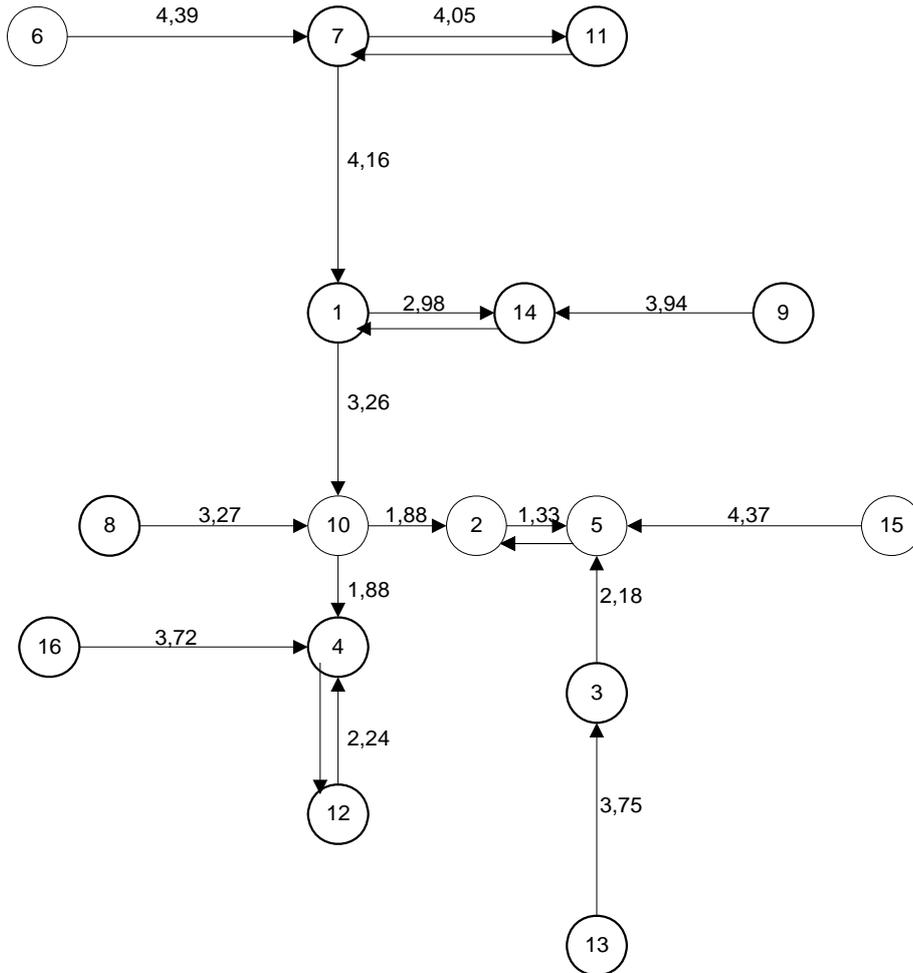
Share ratios of expenses on basic goods in total expenses over the years 1990-2005 in Poland and the Czech Republic significantly decreased and the decrease in the Czech Republic was deeper than in Poland. A drop of the share ratio of expenses on basic goods in the structure of consumer expenses is the evidence of increased wealth of societies in these countries. However, it is not a permanent tendency. Forecasts assume that the ratio will further decrease in the Czech Republic, while in Poland it will increase.

4.5. Ordering of countries being investigated

One of the other purposes of comparative studies was to determine interrelations between the countries under consideration in the extent of the structure of consumer expenses, consisting in indicating of the countries being “countries-models” or “countries-shadows” with respect to the structure of consumer expenses. For this purpose calculated matrixes of distances for structure of consumer expenses for Poland, the Czech Republic and EU-14 countries have been applied, which became the basis for plotting the so-called coherent graph (Hellwig, 1968).

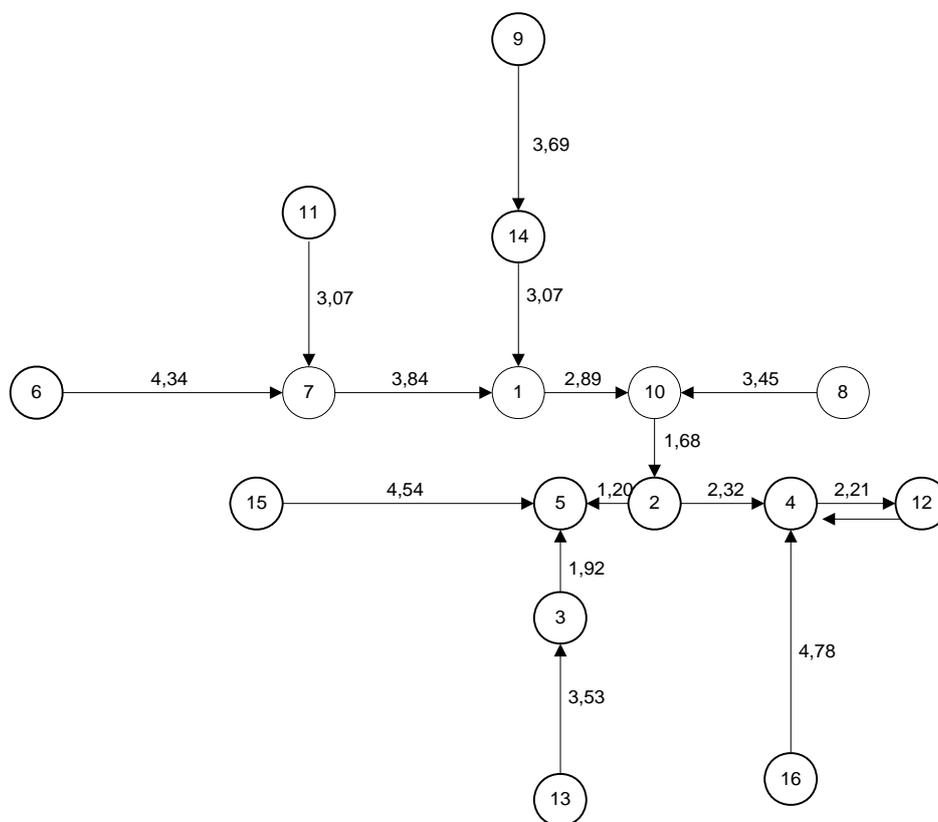
For example, in 2005 (Figure 1) France was a country-model for Poland (15) in the extent of structure of consumer expenses (5), while for the Czech Republic (16) – it was Finland (4). In turn for Ireland (9) Italy became a country model (14). In 2005 „Interaction” occurred between Sweden (12) and Finland (4). A change of countries

“models” and “shadows” in the individual years resulted from ongoing evolution of the consumer expenses structure in the countries being compared. Long-term forecasts for 2015 (Figure 2) assume, that country-model for the Czech Republic (16) in the extent of consumer expenses structure will again be provided by Finland (4), however for Poland (15) it will still be France (5).



Designations: 1 – Austria, 2 – Belgium, 3 – Denmark, 4 – Finland, 5 – France, 6 – Greece, 7 – Spain, 8 – Netherlands, 9 – Ireland, 10 – Germany, 11 – Portugal, 12 – Sweden, 13 – United Kingdom, 14 – Italy, 15 – Poland, 16 – Czech Republic

Figure 4. The coherent graph for the percentage structure of consumer expenses by purpose in 2005



Designations: 1 – Austria, 2 – Belgium, 3 – Denmark, 4 – Finland, 5 – France, 6 – Greece, 7 – Spain, 8 – Netherlands, 9 – Ireland, 10 – Germany, 11 – Portugal, 12 – Sweden, 13 – United Kingdom, 14 – Italy, 15 – Poland, 16 – Czech Republic

Figure 5. The coherent graph for the predicted percentage structure of consumer expenses by purpose in 2015

Presented coherent graphs give a more complete picture of interrelations between the countries being compared in the extent of evolution of the consumer expenses structure as well as these enable to at least roughly determine a possible direction of changes of the consumer expenses structure in these countries in the coming years.

4.6. Determination of the synthetic measure of development (SMD) for the consumer expenses structure in the countries under investigation

The aim of the comparative research was also to evaluate the structure of consumer expenses in the selected years in the countries being compared and to

make certain assumptions and to establish a criterion of evaluation. The following assumption was made in the research: the structure of consumer expenses reflects the level of development of a given country and, in accordance with a formula of the first Engel's Law, with an increase of income of a population, the share of expenses on food is decreasing. In order to facilitate the evaluation, it was needed to convert the structure of expenses in the individual countries into a synthetic measure that could at the same time approximate a level of development of a given country. Comparison and evaluation of the consumer expenses structure in the individual countries was possible due to their description by means of some aggregated value – a synthetic measure, through application of one of the most popular methods of linear ordering, i.e. the Hellwig's standard method (Zeliaś, 2004). Within the confines of specified sorts of consumer expenses (so-called diagnostic variables/features), for the needs of calculation of a development measure it was necessary to distinguish both stimulants and destimulants. Having in mind factual premises, resulting from established regularities, the following destimulants were recognized: expenses on food and non-alcoholic beverages and expenses on alcoholic beverages and tobacco. The stimulants, within the confines of specified sorts of consumer expenses, included: expenses on clothing and footwear; housing and energy carriers; household equipment; health; transport; communication; holiday and recreation; education; hotels and restaurants and others. Table 4 gives values of the Hellwig's synthetic measure of development, calculated for the structure of consumer expenses by purpose as percentages in the EU-14 countries, Poland and the Czech Republic in the selected years (1990, 1995, 2000, and 2005) with ordering the countries being investigated by values of synthetic measures of development from the highest to the lowest.

Table 4

Ordering of the countries being investigated by the Hellwig's synthetic measure of development calculated for the percentage structure of consumer expenses by purpose

1990		1995		2000		2005	
Country	Value of measure						
Austria	0.385	Germany	0.411	Netherlands	0.365	Netherlands	0.383
Germany	0.366	Italy	0.382	Italy	0.361	Austria	0.359
Italy	0.355	Austria	0.379	Austria	0.349	Germany	0.348
Netherlands	0.352	Netherlands	0.370	Germany	0.343	Italy	0.344
France	0.342	U.K.	0.348	U.K.	0.279	U.K.	0.315
Spain	0.307	France	0.318	Belgium	0.265	Ireland	0.291
U.K.	0.304	Portugal	0.310	Ireland	0.262	Belgium	0.267
Ireland	0.281	Belgium	0.300	Portugal	0.260	Portugal	0.247
Portugal	0.277	Ireland	0.292	France	0.243	France	0.241

Table 4 continued

Belgium	0.274	Spain	0.277	Spain	0.218	Denmark	0.209
Denmark	0.248	Denmark	0.240	Finland	0.183	Spain	0.208
Greece	0.241	Greece	0.200	Denmark	0.171	Finland	0.206
Finland	0.201	Finland	0.173	Sweden	0.171	Sweden	0.168
Sweden	0.142	Sweden	0.155	Greece	0.125	Greece	0.139
Poland	-0.037	Poland	0.002	Poland	0.046	Czech Republic	-0.001
Czech Republic	-0.038	Czech Republic	-0.047	Czech Republic	-0.052	Poland	-0.029

Depending on the achieved level of SMD three groups of countries are distinguishable. The group of countries with the highest level of "development" of the consumer expenses structure (the highest Hellwig's measure of development – above 0.3) includes Austria, Germany, Netherlands, France, United Kingdom and Italy. While in turn, the lowest value of the measure (below 0.2) is reported in case of the following countries: Greece, Poland, the Czech Republic, and Sweden. The measure of development for Poland significantly increased in 2000, but unfortunately in 2005 dropped to the lowest value in all the countries being compared. Situation of the Czech Republic with respect to the measure of development slightly improved, from the last positions held in 1990, 1995, and 2000 the Czech Republic advanced to the last but one in 2005, thus overtaking Poland.

To carry out a deeper analysis and obtain a better illustration of changes taking place within synthetic measure of development in the countries and years being compared (including years of forecasts), a box-and-whisker diagram (see Figure 6) was used. Poland and the Czech Republic in the majority of years under consideration were clearly the distant objects. This distance is caused by the negative value taken on by calculated synthetic measures of development for these countries in some of the years. It is difficult to unambiguously evaluate changes of minimum, maximum, first and third quartile values as well as that of a median. 1990 witnessed a situation when the distance between the measure for Poland and the Czech Republic and the minimum value of the measure for the EU countries was the biggest. The highest variability of the measure, taking into considerations values of the first and third quartiles, was reported in 1995 when the longest distance between maximum and minimum values of the measure occurred as well. In the forecast for 2010 and 2015 only slight reduction of sizes of the boxes could be observed, i.e. the distance between the first and third quartiles. This means a decreased degree of variability of the EU countries with regard to the synthetic measure of development for the feature under consideration, which should be evaluated positively from the undertaken considerations point of view.

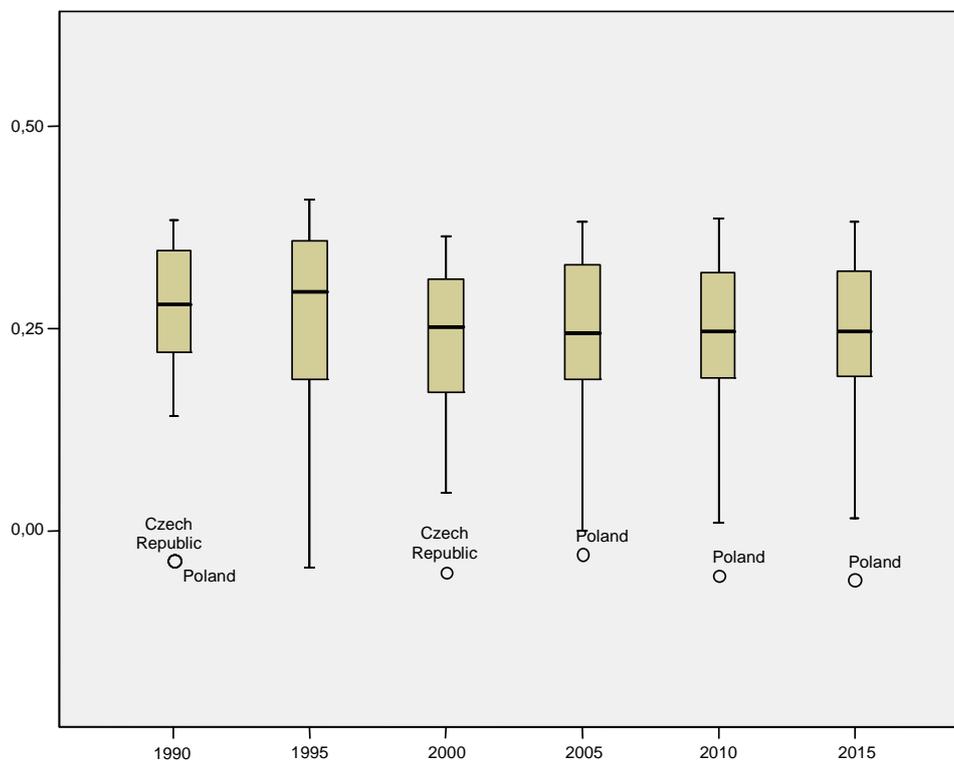


Figure 6. Synthetic measure of development for the structure of consumer expenses determined by the standard method in Poland, the Czech Republic and EU-14 countries in the selected years

Source: Based on: Euromonitor (2007).

4.7. Convergence of consumption structures in the countries being investigated against the determined standard

Having in view changes taking place in the consumption structure in Poland, the Czech Republic and the European Union countries in the period under consideration, presented only in broad outline, another aim of the comparative research was to find an answer to the question: Do these structures show any tendency for getting closer to the established abstract standard, thus becoming more similar to each other?

While establishing the standard, it is important to maintain appropriate essential procedures as well as statistic and formal ones (Figure 5). The following values of the determined standard were adopted: maximum values of standardised diagnostic features being the stimulants and minimum values of standardised diagnostic features being the destimulants.

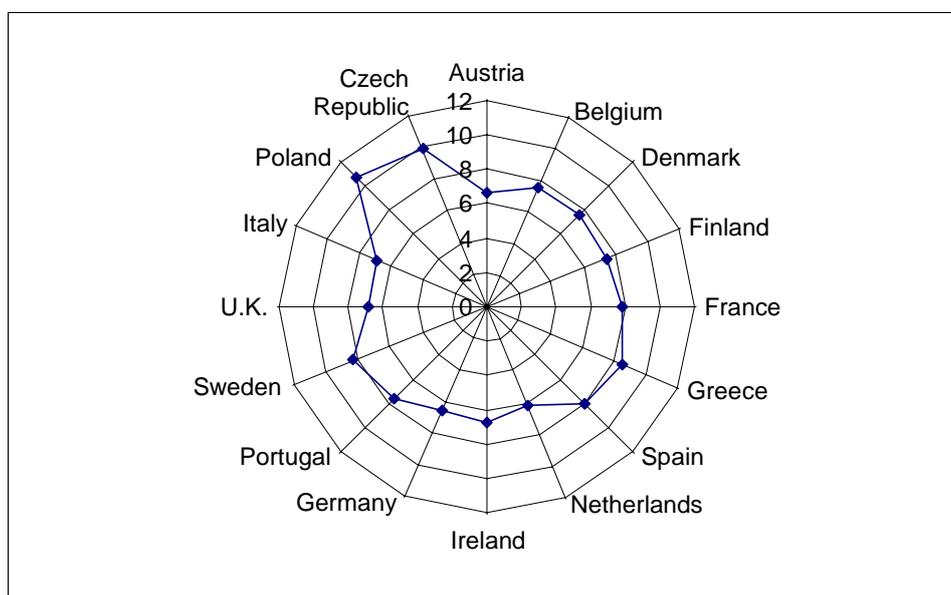


Figure 7. Distance of the EU countries, Poland and the Czech Republic from the object of the standard in terms of the forecasted structure of consumer expenses by purpose, shown as percentages, in 2015

Source: Ibid.

In accordance with the data forecasted for 2015, the following countries are the nearest to the standard: Netherlands, Germany, Austria, Ireland and United Kingdom. In contrast, Poland, the Czech Republic, Greece, Sweden and Spain will be the farthest from the standard. Results of conducted analyses show that countries of the European Union are gradually equalising their distances from the standard developed for the structure of consumer expenses. Moreover, it was observed that in subsequent years of comparison decreasing of mean Euclidean distances from the standard takes place. At the same time, it is worth mentioning that there is no a tendency for stabilisation of distances of compared objects belonging to the EU-14 countries from the standard. In case of Poland and the Czech Republic this distance is still changing. Mean Euclidean distance from the standard calculated for all the countries being compared decreased from the value of 7.74 in 1990 to 7.48 in 2005. While looking for distances of the individual countries from the standard developed for the structure of consumer expenses in selected moments of time, one may conclude that the structure of consumer expenses is still “pulsating”.

Conclusions

Summarising, integration processes taking place in Europe (we have in mind not only formal accession of the aspiring countries into the EU but also a general view of changes resulting from the still ongoing adjustment processes) determine an evolution path for consumption patterns in Poland and the Czech Republic. It was observed that directions for these changes were generally determined by consumption patterns existing in the societies of Western Europe. Countries being compared witness a quite differentiated degree of modernity of consumption structures, which is reflected by the structure of consumer expenses. This is the consequence of differentiated levels of social and economic development of the individual countries, levels of wealth of their societies as well as preferences and aspirations of consumers. Convergence, for the time being, more concerns the countries of the old European Union. Countries which accessed the EU in 2004 (including Poland and the Czech Republic) are subject to this process to a lesser extent. Convergence of consumption for these countries consists in getting closer in the first turn to medium-developed countries of the European Union. Within consumption visible qualitative transformations take place and they, consist in transition from lower to higher forms and ways of consumption that is manifested, among other things, in the increased share of expenses on higher-order goods in total expenses and stabilization or a further decrease in the share of expenses on basic goods.

A degree of underdevelopment of Polish and Czech economies in relation to that of the Union contributes to the situation when changes in the level and structure of consumption are of rather gradual nature. Poland and the Czech Republic show close tendencies, although they are postponed in relation to general tendencies of changes in the level and structure of consumption in the countries of European Union.

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