

REGIONÁLNÍ VNÍMÁNÍ GLOBÁLNÍCH VÝZEV V PĚTI STÁTECH EU: EKONOMICKÁ KRIZE, ŽIVOTNÍ PROSTŘEDÍ A TECHNOLOGIE

REGIONAL PERCEPTION OF GLOBAL CHALLENGES IN FIVE EU COUNTRIES: ECONOMIC CRISIS, ENVIRONMENT AND TECHNOLOGY

LAPKA Miloslav, VÁVRA Jan

Abstract

The study focuses on the opinions on economic crisis, environmental issues and technology related to lowering energy demand and greenhouse gases. We conducted a sociological survey with approximately 2500 respondents in five EU countries: the United Kingdom, the Netherlands, Germany, the Czech Republic and Hungary. The differences in perception of the problems and the differences among the individual countries were compared with statistical methods. Environmental pollution is perceived as the most important problem, followed by the economic crisis, concern about terrorism and climate changes. The migration into Europe is perceived as the least important problem. Respondents prefer technological measures as a solution for the most important problems. Despite some broad agreements, the statistically significant differences between the countries exist. For example, the terrorism is much more important in the Czech Republic than in any other state. The local distinctions must be considered during the process of developing economic and political solutions to address these problems.

Key words: economic crisis, environment, region, global challenges.

JEL Classification: Q20, Q53, Q54, R59

Abstrakt

Studie přináší porovnání názorů na ekonomickou krizi, životní prostředí a technologie související se snižováním spotřeby energie a emisí skleníkových plynů. Sociologické šetření proběhlo na vzorku asi 2500 respondentů v pěti státech EU: Velká Británie, Nizozemí, Německo, Česká Republika a Maďarsko. Statistickými metodami byly porovnávány rozdíly v závažnosti vnímání sledovaných problémů i rozdíly mezi jednotlivými státy. Celkově nejvýznamnějším problémem se ukázalo být znečištění životního prostředí, následováno ekonomickou krizí, obavami z terorismu a klimatickými změnami. Jako nejméně důležitý vnímaný problém se jeví migrace do Evropy. Při řešení nejdůležitějších problémů, preferují respondenti technologická opatření. Přesto existují statisticky významné rozdíly mezi jednotlivými státy, např. v ČR je vnímán terorismus jako největší problém ze všech států. Tyto rozdíly je třeba brát v úvahu při tvorbě ekonomických a politických nástrojů k řešení těchto problémů.

Klíčová slova: ekonomická krize, životní prostředí, regiony, globální problémy.

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Introduction

The global financial and economic crisis, brewing for a while, really started to show its effects in the middle of 2007 and fully manifested itself in 2008. World stock markets fell sharply, large financial institutions collapsed or were bought out, and governments in even the wealthiest nations had to come up with rescue packages to bail out their financial systems. On the one hand, many people are concerned that those responsible for the financial problems are the ones being bailed out, while on the other hand, a global financial meltdown will affect the livelihoods of almost everyone in an increasingly inter-connected world. The problem could have been avoided if ideologues supporting the current economics models weren't so vocal, influential and inconsiderate of others' viewpoints and concerns. Speaking about global economic crises we cannot remain just on this global level. Globalization has its reflection on local dimensions of states and regions. Economic crisis as a reality has its real consequences in each state and region of the whole Earth. It is a supranational phenomenon infiltrated even into the smallest parts of our world. The manifestation of regional crises is different from a global level of it. It could be worse or slightly mild and it reflects also in people feeling and perceiving of this global threats or risks.

From the EU opinion polls we know that the economic crisis became one of the most important threats and problems, as perceived by European citizens and joined the poverty and lack of drinking water and climate change on the top of all global problems (EC, 2008; EC, 2009). The problems of economic crisis and climate change are connected more than it is visible at first sight. Climate change belongs to the problem of environmental pollution in general. EU citizens strongly agree that environmental protection and efficient use of natural resources can boost the growth of EU economy (EC, 2011). This opinion is in line with the EU plan 20-20-20, aiming to be "highly-efficient, low carbon economy" in 2020 (EC, 2010) and the global support for "green economy" (Cudlínová, in press).

With these previous studies in our minds, we bring here the results of sociological survey from five EU countries, including the United Kingdom, the Netherlands, Germany, the Czech Republic and Hungary. Our main object is to present the perception of the major challenges to the EU and their possible solution by local communities of the five EU countries. The whole topic could be divided into two parts: importance of the challenges and reduction of energy demand and greenhouse gases emissions.

Review of literature

The comparative approach towards different global problems was used in climate oriented Eurobarometers (EC, 2008; EC, 2009). Other Eurobarometer opinion polls focus solely on the environmental issues, including climate change (EC, 2007, EC, 2011). Some sociological papers deal with climate change and other social and personal problems (Bord et al., 1998), but more often the studies focus on the climate change and other environmental issues, e.g. Brechin's international comparison (2003). Apart from the sociological approach, there are other studies, focusing on the problem from many different points of view, e.g. the governance approach applied by Gotts and Kovách (2010).

In the Czech milieu the studies dealing with climate change focus mostly on the concern and possible consequences, either studying only Czech population (Lapka et al., 2011) or international samples (Lapka, Cudlínová, 2007). A long-term opinion poll of Public Opinion Research Centre presents the changes of the concern about environmental issues in the Czech Republic for the last 10 years (CVVM, 2011a), other poll (CVVM, 2011b) focuses on the perception and impact of financial crisis.

Methods

The questionnaire survey was conducted in spring 2010 in five European countries with different histories, social, and economical conditions. These countries are: the United Kingdom (Scotland), the Netherlands, Germany, the Czech Republic and Hungary. The survey was held in an urban area with the rural surroundings in each country (Aberdeen and Aberdeenshire; Assen and the surroundings; Potsdam and Potsdam-Mittelmarkt, České Budějovice and the former districts of České Budějovice and Český Krumlov; and Debrecén and Hajdú-Bihar region). The GILDED project aimed to cover the urban and rural population equally, thus half of the respondents live in urban and half in rural areas. The sampling procedure combined cluster, quote and random sampling. Questionnaires were distributed from door to door, dropped and then collected (with part of the questionnaires distributed and collected by post in the UK). Overall response rate in all countries was 32 %.

Table 1 – Socio-demographic characteristics of the respondents

		Czech Rep.	United Kingdom	Netherlands	Germany	Hungary	Total
Gender (%)	Male	47,4	53,9	49,8	53,3	48,9	50,7
	Female	50,4	45,6	48,9	45,3	50,7	48,1
Age groups (%)*	18-39	42,6	17	19,7	24,8	43,7	29,7
	40-59	34,4	39	48,7	43,4	31,1	39,3
	60+	21,6	44	31,6	31,1	24,6	30,5
Education (%)	No/primary	4,2	0,4	2,1	0,4	18,2	5,1
	Sec.-low	26,6	24,1	15,4	18,1	37,1	24,3
	Sec.-high	44,6	22,4	8,8	7,8	3,4	17,3
	Vocational	5,2	11,2	28,4	30	23	19,7
	University	17,2	36,1	44,2	40	18,2	31,1
N		500	482	468	537	499	2486

Resource: authors

The relatively long questionnaires asked for respondents' values, perception of climate change and relevant energy issues, their own energy relevant behaviour, perception of institutions dealing with energy issues and the CO₂ calculator where respondents filled their energy demand. The length and the topic of the questionnaire were probably the most important factor which caused that the sample is not really representative regarding the age and the education. The data were processed with SPSS Statistics software.

Brief description of study areas

Aberdeen is a city with a population of approximately 200 000 in North-East Scotland. In its surroundings, in Aberdeenshire, live approximately 230 000 inhabitants. The economy of the city is largely based on the North Sea oil industry. Aberdeenshire is mainly rural with small towns, villages and scattered rural communities in an agricultural landscape.

The study area of Assen and its municipality lies in the north of the Netherlands in Drenthe province. Assen city has a population of approximately 65 000. The surroundings consist of a number of small villages.

In Germany, the study sites of Potsdam City (approx. 150 000 inhabitants) and neighbouring district Potsdam-Mittelmark (approx. 205 000 inhabitants) were chosen. Both of these areas are situated in Bundesland Brandenburg, close to Berlin.

Figure 1 – Study sites

Resource: authors

České Budějovice (approx. 95 000 inhabitants) and the former districts of České Budějovice and Český Krumlov (population without the city of České Budějovice approx. 145 000) are the study sites in the Czech Republic. The area is located in the South Bohemian Region. The rural area consists of the villages and small towns in traditional agricultural landscape.

In Hungary the study took place in the Debrecen city (population approx. 207 000) and the surrounding Hajdú-Bihar county (population without Debrecen approx. 340 000). The locality could be found in the east of Hungary.

Results

The results in the tables are the means of the 1 to 5 scale with standard deviations in the parentheses. N represents the number of respondents range in the countries (answers to the particular questions). The overall differences between countries are significant in all questions of all topics. Significance of ANOVA is at 0,01 level (**). The differences between individual countries vary diversely according to the particular questions. Thus it is not possible to group the countries in some stable groups, like e.g. Eastern-Western.

First research topic is the perceived importance of the problems for Europe (see Tab. 2). Terrorism is perceived as the most important problem in the Czech Rep. and as quite important problem in other countries, except Hungary. Environmental pollution is generally the biggest problem, followed by the economic crisis, with lower importance in the Netherlands. Climate change received highest importance in Germany and lowest in the the UK and the Netherlands with the Czech Republic and Hungary being in the middle. Migration to Europe is overall the least important problem, relatively the most important in the Czech Republic and least important in the Netherlands.

Standard deviations show that there is the biggest agreement on the topic of environmental pollution and economic crisis. On the other hand, climate change, migration and terrorism are more controversial. Migration is controversial in all countries, terrorism in the Netherlands and Hungary and climate change in the Czech Rep.

Table 2 – Importance of problems for Europe

	CZE	UK	NL	GER	HUN	Total	ANOVA
Terrorism	4,40 (0,90)	3,94 (0,91)	3,99 (1,07)	3,96 (0,95)	3,61 (1,16)	3,98 (1,03)	F = 39,039**
Environmental pollution	4,25 (0,78)	3,95 (0,75)	3,96 (0,76)	4,28 (0,65)	4,10 (0,82)	4,11 (0,76)	F = 20,745**
Economic and financial crisis	4,12 (0,98)	4,07 (0,73)	3,68 (0,80)	4,26 (0,74)	4,26 (0,85)	4,08 (0,85)	F = 38,808**
Climate change	3,82 (1,04)	3,67 (0,86)	3,64 (0,89)	4,15 (0,78)	3,91 (0,91)	3,85 (0,92)	F = 26,610**
Migration into Europe	3,53 (1,24)	3,71 (1,00)	2,94 (0,96)	3,19 (1,10)	3,04 (1,17)	3,28 (1,13)	F = 41,711**
N	464-488	475-477	458-463	519-522	495-497	2417-2444	

Resource: authors

Note: The original question was “Please indicate which of the following problems are – according to your opinion – most serious with respect to Europe.” Values ranged from 1 (not serious at all) through 3 (neither) to 5 (very serious). Numbers are means, numbers in parentheses are standard deviations.

The acceptance of the possible actions leading to the mitigation of climate change is our second research topic (see Tab. 3). Development of more efficient technology and using renewable energy instead of fossil fuels are broadly accepted measures in all countries. Reduction of the energy consumption through lifestyle changes is mostly accepted in the Czech Rep. Increasing the use of nuclear energy is the least acceptable measure, more acceptable in the UK and the Czech Rep., and not very acceptable in Germany. It is also much more controversial, according to the standard deviations, than the rest of the measures.

Table 3 – Acceptance of climate change reduction measures

	CZE	UK	NL	GER	HUN	Total	ANOVA
Efficient technology	4,31 (0,62)	3,92 (0,82)	4,09 (0,73)	4,46 (0,63)	4,20 (0,76)	4,20 (0,74)	F = 41,385**
Renewable energy	4,24 (0,73)	4,15 (0,66)	4,17 (0,73)	4,33 (0,69)	4,27 (0,82)	4,23 (0,73)	F = 4,990**
Changing lifestyles	4,08 (0,69)	3,71 (0,78)	3,91 (0,71)	3,68 (0,86)	3,80 (0,82)	3,83 (0,79)	F = 21,651**
Nuclear energy	3,03 (1,24)	3,22 (0,98)	2,77 (1,11)	2,25 (1,17)	2,69 (1,17)	2,78 (1,19)	F = 51,752**
N	430-469	475-478	458-462	522-524	495-498	2384-2428	

Resource: authors

Note: The original question was “To what extent do you find each of the following actions to reduce climate change problems acceptable?” Values ranged from 1 (not at all acceptable) through 3 (not acceptable, not unacceptable) to 5 (very acceptable). Numbers are means, numbers in parentheses are standard deviations.

Discussion

The most important problem for Europe in the sample of all five countries is environmental pollution. Economic and financial crisis reached the second place, but the differences are minimal. Terrorism is more important than climate change and migration to Europe has the least importance. Higher importance of environmental pollution in general, than importance of a climate change is in agreement with previous studies and opinion polls. The studies show that people are more concerned about other environmental issues, like water pollution or waste management (Fischer et al., submitted) and that the importance of climate change among other environmental problems and among different global problems decreased after its peak in 2007/2008 (EC, 2009; EC, 2011). From the environmental point of view, it is interesting, that the environmental pollution was not overridden by the economic problems. It suggests that people are environmentally conscious and aware of the threats of environmental pollution or that the pollution is ubiquitous and perceived as really crucial problem.

Regarding the countries differences, it is interesting that the highest importance of terrorism and a relatively high importance of problem of migration is perceived in the Czech Republic, where people have no or small experience with these phenomenon. Economic crisis received high score from respondents of all countries, except a bit more optimistic Dutch ones. The Czech and the German respondents ranked the environmental pollution with the highest score, while the UK and the Dutch respondents gave lower (but still a very high) score. Similarly, the UK and the Dutch respondents assigned the climate change a lower importance. Not surprisingly, the climate change received the highest rank in Germany.

Three of four possible ways how to achieve the climate change mitigation and energy demand are broadly acceptable, nuclear energy is very controversial. Development of more efficient technology and using renewable sources of energy received high scores in all of the countries, with the highest scores in Germany in both cases. This high acceptance suggests the openness of European citizens towards the ecological modernization and green economy. It is in agreement with previous Eurobarometer poll covering links between economical growth and environmental protection (EC, 2011). Changing lifestyles to lower energy demand received lower, but still relatively high, scores. The highest acceptance occurred among the Czech respondents. It is very hard to interpret why. Again not surprisingly, the increase of use of nuclear energy was the most controversial and received the lowest score in Germany⁵. Even the highest scores received in the UK and the Czech Rep. are relatively low, compared to the acceptance of other possible measures.

Conclusion

Our results confirmed that regional differences are important in threats perception. The same global threat is perceived differently by people from different regions. This conclusion could be seen as not surprising but its importance reveals from perspective of cohesion and other kinds of the EU policies. Regional differences must be taken into account by the EU during its effort to solve major problems like CO₂ emissions or other global tasks. The negotiation and solution of the similar problems must differ from region (state) to region (state). It is a very sensitive question of governance and practical realization of international agreements. The same set of indicators could work but not the same principle of economic or command and control instruments. The effectiveness of practical realization of the general EU rules depends on regional, cultural, political and other specifics of each region and state. On

⁵ The research was conducted in 2010, year before the tragedy in nuclear power plant in Fukushima, Japan. In 2011 the acceptance of nuclear energy would probably be even lower.

the other hand, the regional differences are less important in the perception of the acceptability of renewable technologies and development of more efficient technology. These EU favourable measures would be probably most welcomed by the society, but the Czech experience with solar energy subsidies is a reminder that every “green-energy” policy must be well-considered, well-communicated and flexible enough, to be successful.

References

- [1] BORD, R. J., FISHER, A., O’CONNOR, R. E. 1998. Public perceptions of global warming: United States and international perspectives. *Climate Research*, vol 11, pp. 75-84. ISSN 1616-1572.
- [2] BRECHIN, S. R. 2003. Comparative Public Opinion and Knowledge on Global Climatic Change and the Kyoto Protocol: The U.S. versus the World? *International Journal of Sociology and Social Policy*, vol. 23, no. 10, pp. 106-134. ISSN 0144-333X.
- [3] CUDLÍNOVÁ, E. in press. Změny ve stylu ekonomického myšlení – šance pro trvale udržitelný rozvoj společnosti nebo pro zelený ekonomický růst? *Acta Universitatis Carolinae – Philosophica et historica – Studia sociologica XVI – Naše společná přítomnost I*. ISSN 0567-8293.
- [4] CVVM (CENTRUM PRO VÝZKUM VEŘEJNÉHO MÍNĚNÍ). 2011a. *Finanční krize očima české veřejnosti – leden 2011* [online]. 2011 [cit 2011-09-14], Retrieved from http://www.cvvm.cas.cz/upl/zpravy/101111s_ev110228.pdf.
- [5] CVVM (CENTRUM PRO VÝZKUM VEŘEJNÉHO MÍNĚNÍ). 2011b. *Česká veřejnost o globálních problémech – květen 2011* [online]. 2011 [cit 2011-09-03], Retrieved from http://www.cvvm.cas.cz/upl/zpravy/101161s_oe110622.pdf.
- [6] EC (EUROPEAN COMMISSION). 2007. *Attitudes of European citizens towards the environment – Special Eurobarometer 295 – EB68.2* [online]. 2007. [cit 2011-09-21], Retrieved from http://ec.europa.eu/public_opinion/archives/ebs/ebs_295_en.pdf
- [7] EC (EUROPEAN COMMISSION). 2008. *Europeans’ attitudes towards climate change - Special Eurobarometer 300 – EB69.2* [online]. 2008. [cit 2011-20-09], Retrieved from http://ec.europa.eu/public_opinion/archives/ebs/ebs_300_full_en.pdf.
- [8] EC (EUROPEAN COMMISSION). 2009. *Europeans’ attitudes towards climate change – Special Eurobarometer 322 – EB72.1* [online]. 2009 [cit 2011-20-09], Retrieved from http://ec.europa.eu/public_opinion/archives/ebs/ebs_322_en.pdf.
- [9] EC (EUROPEAN COMMISSION). 2010. *The EU climate and energy package* [online]. 2010 [cit 2011-08-27], Retrieved from http://ec.europa.eu/clima/policies/package/index_en.htm.
- [10] EC (EUROPEAN COMMISSION). 2011. *Attitudes of European citizens towards the environment – Special Eurobarometer 365 – E 75.2 – Presentation* [online]. 2011 [cit 2011-09-21], Retrieved from http://ec.europa.eu/public_opinion/archives/ebs/ebs_365_pres_en.pdf.
- [11] FISCHER, A., PETERS, V., NEEBE, M., VÁVRA, J., KRIEL, A., LAPKA, M., MEGYESI, B. submitted. Society is concerned about wise resource use: Social representations of energy, climate change and the future. *Environmental Policy and Governance*. ISSN 1756-9338.
- [12] GOTTS, N., KOVÁČH, I. (eds.). 2010. *Climate change and local governance: Alternative approaches to influencing household energy consumption (A comparative study of five European regions)*. 1st ed. Budapest: Hungarian Academy of Science, 2010. 273 p. ISBN 978-963-7372-71-1. [online] [cit 2011-09-06], Retrieved from <http://mek.oszk.hu/09300/09355/09355.pdf>.

- [13] LAPKA, M., CUDLÍNOVÁ, E. 2007. Problem of Global Warming and Emerging Patterns of Global Consciousness. International Study. *Journal of Landscape Ecology*, vol. 0, no. 0, pp. 91-104. ISSN 1803-2427.
- [14] LAPKA, M., CUDLÍNOVÁ, E., MAREK, M. V. 2011. Vnímání globálních klimatických změn ve společnosti. In MAREK, M. V., et al. *Uhlík v ekosystémech České republiky v měnícím se klimatu*. Praha: Academia, 2011. pp 211-231. ISBN 978-80-200-1876-2.

Adresa autorů:

PhDr. Miloslav Lapka, CSc., University of South Bohemia, Faculty of Economics, Department of Structural Policy of the EU and Rural Development, Studentská 13, 350 05 České Budějovice, Czech Republic, e-mail: miloslav.lapka@centrum.cz

PhDr. Jan Vávra, Charles University in Prague, Faculty of Arts, Department of Cultural Studies Celetná 20, 110 00 Prague, Czech Republic, e-mail: jan.vavra@prirodou.cz