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Comparative Study on International Compulsory Purchase Compensation Solutions in Accordance to FAO Principles of Equity and Equivalence

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Key words: expropriation systems, compensation, cluster analysis

SUMMARY

The article presents a comparative study of different compulsory purchase compensation solutions adopted in Poland and other selected countries. The study mainly used the answers given by respondents from 12 countries located on three continents (Europe, Asia and Australia). Methods used for data processing included descriptive analysis and the method of cluster analysis. One examined which countries fulfill in their procedures of compulsory purchase compensation determination the FAO's five principles most and which don't. The results of the research were presented in tables and charts bearing appropriate comments. The study shows, among others that the whole principle of equivalence is observed in 6 countries and the principle of flexibility in 10 countries. Whereas from the given graph, one can read, that the countries that implemented the FAO's five principles most fully are Finland and Norway.

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INTRODUCTION

Implementation of a public investment in many cases entails interference with the property ownership right of individuals. For this reason, in legal systems of many countries, the procedures for their realization affect the general principles of ownership right protection. The interdisciplinary nature of issues related to public purpose investments, including legal, planning, social and economic aspects, made that topic subject of frequent debate and reflection on both the international and national fora in recent years. The issue was often undertaken by academics and specialists from many countries, who while presenting it at numerous conferences tried to concentrate on bringing up conflict situations and proposals for their solutions. In just a few years as a result of the many initiatives taken by international organizations such as the FIG (especially Commission 9 - Valuation and Management of Real Estate, Commission 7 - Cadastre and Land Management), FAO, World Bank, WPLA - International Organization for Land Administration and the ECHR - European Court of Human Rights, a significant number of publications, guidelines and recommendations was created. The conclusion which accompanied many of the discussions was a noticeable lack of harmonization in the fields of international expropriation (Viitanen & Kakulu, 2008).

In connection with the fact that the theme of the FIG 2011 Conference in Marrakech, is "bridging the gap between the cultures", the authors of this article inspired by its' message made an attempt to answer the questions: how far the expropriation systems of selected countries differ from each other, and which of them have similar solutions. Particular attention was paid to the analysis of rules for determining the amount of compensation for property taken over.

The first step was to select a criteria for assessing the similarity of selected issues of expropriation system. It was decided that, reference will be recommended list of principles of equivalence and equality developed and published by FAO (FAO, 2008).

In this paper, due to the lack of detailed official data, the information on this subject was obtained primarily from surveys conducted as a part of the researches carried out in the Department of Land and Regional Development at the University of Warmia and Mazury in Olsztyn. Comprehensive comparative study of three countries: Polish, German and Norwegian, on almost all issues of expropriation, was presented at the Congress of the FIG in 2010 in Sydney (Walacik & Żróbek, 2010), (Voss, 2010), (Steinsholt, 2010).

1. THE LIST OF FAO'S PRINCIPLES OF EQUITY AND EQUIVALENCE

The possibility of acquiring property rights necessary to carry out the public purpose investments through its' expropriation is possible only when the owner who suffers damages in connection with the losses is given a fair compensation. This condition as it relates to interference with one of the fundamental rights of the citizen, in most countries was written in the constitutions or other acts of fundamental character. While the same condition received a comparable form, for example:

"Expropriation is allowed only if it is for public purposes and for just compensation"
(Polish Constitution, 1997)

"(...) Is to be conducted fairly, taking into account the interests of all parties and expropriation" (German Constitution, 1959),

the rules for determining such compensation, written in ordinary legislation acts of particular countries follow different paths.

According to the Food and Agriculture Organization of the United Nations' publication, which was released in 2008, the correct implementation of the principle of compensation arising from expropriation should take into account the five principles of its estimation.

First of all, the amount of compensation should correspond to the value of the loss or the value of the lost profits so the compensation should comply with **the principle of equivalence**. Second of all, expropriation procedures should safeguard the rights of people who lose ownership or use rights of their land while ensuring that the public interest is not jeopardized, which means that it should comply with **the principle of balanced interests of the parties**. Thirdly, the rules governing the acquisition of properties for public purpose should be combine the appropriate details and the ability to derogate from them in special situations - **the principle of flexibility**. Fourthly, the holders of different rights to the property should be subject to the same procedures - **the principle of uniformity of procedures**, and the implementation of these procedures should allow equal access to information, expert advice, lawyers, valuers, which satisfy the **principle of fairness and transparency** (FAO, 2008).

2. ASSUMPTIONS AND RESULTS OF SURVEYS IN ACCORDANCE TO FAO'S PRINCIPLES OF EQUITY AND EQUIVALENCE

In order to examine how specific principles contained in the FAO study are implemented in specific countries, the authors of the article used data collected in response to the survey called "Questionnaire on Compulsory Purchase," which was sent to more than 50 specialists from 28 countries, whose scientific and professional activity is closely related to real estate management, and particularly the expropriation of property. They were in the majority participants in the conferences organized by the International Federation of Surveyors - FIG. The answers were provided by representatives of 12 countries (Picture 1). The received responses were placed in the tables. The last column of each table shows the number of credits assigned to each country according to the rules described in Chapter 5.



- | | | |
|-----------------------------------|-------------------------------------|---------------------------------|
| 1. Australia - one questionnaire | 5. Germany - one questionnaire | 9. Sweden - one questionnaire |
| 2. China - one questionnaire | 6. Norway - one questionnaire | 10. Taiwan - one questionnaire |
| 3. Cyprus - one questionnaire | 7. New Zealand - two questionnaires | 11. Turkey - one questionnaire |
| 4. Finland - three questionnaires | 8. Poland - one questionnaire | 12. Hungary - one questionnaire |

Picture 1 Countries covered by the survey (red colour)
Source: Authors' own study

2.1. THE PRINCIPLE OF EQUIVALENCE

Verification of compliance with the principle of equivalence was based on the amount of , so called, compensation heads - the elements having the greatest influence on the expropriated property owner financial situation change, taken into account during the compensation determination. The elements are: the value of the expropriated property right, the value of lost profits and additional costs incurred as a direct result of the expropriation (Walacik & Żróbek, 2010). In the analyzed group of 12 expropriation systems only 6 of them take into account all three elements. In four countries, two components are included - the value of expropriated rights and the value of lost profits (Poland compensate lost profits partly). The value of expropriated right, included as the only element, occurred in two countries - Taiwan and Turkey (Picture 2).

COUNTRY	COMPONENTS OF COMPENSATION			POINTS
	VALUE OF THE RIGHT	LOST PROFITS	ADDITIONAL COSTS	
Australia	✓	✓	✓	3
China	✓	✓		2
Cyprus	✓	✓	✓	3
Finland	✓	✓	✓	3
Germany	✓	✓	✓	3
Norway	✓	✓	✓	3
New Zealand	✓	✓	✓	3
Poland	✓	✓ (partly)		2
Sweden	✓	✓		3
Taiwan	✓			1
Turkey	✓			1
Hungary	✓	✓		2
SUMA	12	10	6	

Picture 2 The components of compensation to in some countries
Source: Authors' own study on the basis of (Żróbek & Walacik, 2009)

2.2. THE PRINCIPLE OF BALANCE OF INTERESTS

Interpretation of the principle of balance of interests in accordance to the FAO's recommendation address not only different aspects of the expropriated property owner protection but also protection of a public investment implementation. Due to the scope of the data collected for the purpose of this study the interpretation of this principle was narrowed to the problem of the possibility of return of expropriated property in the absence of a public investment realization for which was expropriated (Picture 3).

COUNTRY	POSSIBILITY OF EXPROPRIATED PROPERTY RETURN			POINTS
	YES	NO	OTHER	
Australia	?	?	?	1
China	?	?	?	1
Cyprus	✓			2
Finland	✓			2
Germany	✓			2
Norway	✓			2
New Zealand	✓			2
Poland	✓			2
Sweden	✓			2
Taiwan	✓			2
Turkey	✓			2
Hungary	✓			2

Picture 3 Possibility of expropriated property return
Source: Authors' own study on the basis of (Żróbek & Walacik, 2009)

In all of the analyzed countries, except Australia and China (no answer), there is a possibility of expropriated property return.

2.3. THE PRINCIPLE OF FLEXIBILITY

As in the case of the principle of balance of interests the scope of interpretation of the principle of flexibility can be very broad. It may relate to matters of procedure and those related to the methodology of compensation determination. Narrowing the scope of the principle of flexibility to the issue of compensation, the authors of this paper only confined to the criterion of compensation's form - replacement property, and the admissibility of the difference between the value of compensation and the value of the replacement property (Picture 4).

COUNTRY	THE POSSIBILITY OF GRANTING A REPLACEMENT PROPERTY		THE VALUE OF REPLACEMENT PROPERTY		POINTS
	YES	NO	THE SAME	DIFFERENT	
Australia	✓			✓	3
China	✓		✓		2
Cyprus	✓		✓		2
Finland	✓			✓	3
Germany	✓			✓	3
Norway	✓			✓	3
New Zealand	✓			✓	3
Poland	✓			✓	3
Sweden		✓			1
Taiwan		✓			1
Turkey	✓		✓		2
Hungary	✓		✓		2

Picture 4 The possibility of granting a replacement property and the admissibility of the difference between its value and the value of compensation

Source: Authors' own study on the basis of (Żróbek & Walacik, 2009)

The vast majority of examined countries, give an opportunity to receive compensation in the form of a replacement property. The only countries where such opportunities do not exist are Taiwan and Sweden. Replacement property received in China, Turkey, Cyprus and Hungary must be of similar value. In other countries there is no such restriction. Any difference between the value of the compensation and replacement property may be supplemented in cash. The authors decided that the possibility of granting replacement property will be assigned with additional point. That kind of point assignation, in their opinion, awards countries that fulfill the principle of flexibility in a wider sense. One may say that the possibility of granting a replacement property can be important in a country with a property market that is not so developed but in well-functioning market that does not seem to be important. That statement is true, nevertheless lack of such a possibility decreases procedural flexibility.

2.4. THE PRINCIPLE OF EQUAL APPLICATION TO DE FACTO AND DE JURE INTERESTS

Verification of implementation of the principle of equal application to de facto and de jure interests was made in reference to the methodology of compensation determination. The basis for assessing similarities were methods for estimating the value of the acquired property. Although the question's form was based on the classification of approaches, methods and valuation techniques appropriate to the authors country, respondents were allowed to indicate other, different ways of valuation by giving an answer to an open kind of question (Picture 5).

COUNTRY	Sales comparison approach				Income approach			Costs approach				POINTS
	1	2	3	4	5	6	7	8	9	10	11	
Australia	✓				✓				✓			3
China	✓	✓	✓		✓	✓				✓		3
Cyprus	✓	✓			✓	✓						2
Finland	✓	✓	✓		✓	✓		✓	✓	✓		3
Germany	✓	✓	✓		✓	✓		✓	✓	✓		3
Norway	✓				✓			✓				3
New Zealand	✓				✓	✓						2
Poland	✓	✓	✓		✓	✓		✓	✓	✓		3
Sweden	✓	✓	✓		✓	✓		✓	✓	✓		3
Taiwan	✓				✓			✓				3
Turkey	✓											1
Hungary	✓			✓*		✓		✓				2
1. Pair sales comparison 2. Average price adjustment 3. Statistical market analysis 4. Other 5. Direct capitalization						6. Discounted cash flows 7. Other 8. Detailed technique 9. Joined elements technique 10. Index technique 11. Other						
* The base of the method is the AK value that belongs to the quality classes, to which multipliers are connected at all times												

Picture 5 Methods of determining the value of the expropriates property
Source: Authors' own study on the basis of (Żróbek & Walacik, 2009)

All the analyzed countries, while determining the value of the properties use procedures appropriate for a comparative approach and the method of pair sales comparison. The method of average price adjustment is used in 5 countries and the method of statistical market analysis in 4. In case of the income approach most commonly used technique is the direct capitalization (9 countries). The discounted cash flows technique is used in 7 countries. The cost approach is the least frequently used one. The only country whose method of determining the property value goes beyond the classifications described above is Hungary. The comparative method used in this country consists of valuing the property based on the quality classes, which are administratively assigned to the appropriate indicators.

2.5. THE PRINCIPLE OF FAIRNESS AND TRANSPARENCY

The principle of fairness and transparency, which directly relates to equal access to information of all sides of the process of expropriation, for the purpose of the article, referred to the authorities and experts directly involved in the procedure of determining the value of the expropriated property and compensation. Particular attention was paid to the competence of particular bodies (limited to the bodies of first instance), whether it allows to maintain impartiality, and thus meet the principles of justice (subjective assessment of the authors of the study) (Picture 6 **Error! Reference source not found.**).

COUNTRY	WHO DETERMINES		POINTS
	VALUE OF THE PROPERTY	AMOUNT OF COMPENSATION	
Australia	Contract Government valuers and private valuers for the party who loses their property. If no agreement and the matter proceeds to court, then the court may appoint an independent valuer		2
China	Registered Real Estate Appraisers	By negotiation of both sides.	2
Cyprus	The Valuation Section of the Lands and Surveys Department. There are qualified expert valuers.	The amount of compensation is defined by the Valuation Section of the Lands and Surveys Department	1
Finland	The unbiased expert(s) from the National Land Survey defines the amount of compensation. In larger cases unbiased amateurs are used to look after "the fairness" of the compensation/The cadastral surveyor.		2
Germany	The Valuation Committees (Gutachterausschüsse), organized in the counties.	Expropriation Authority which is organized at the medium level of the state administration.	1
Norway	Land Consolidation: Land Consolidation Court. Based on agreement: Normal Court.	Courts in charge. Expert consultants are often called.	2
New Zealand	Valuers, correctly instructed and independently for each party. If not agreed – the Land Valuation Tribunal		2
Poland	Real estate valuer	Voivodship Governor, Starost of the county	2
Sweden	Court		2
Taiwan	Government staff in department of land administration	Government staff.	1
Turkey	Valuation experts of the relevant institution	Committees of Valuation Experts.	1
Hungary	The expert of real estate valuer	The process of expropriation is performed by the head of the public administration office of the county or Budapest component as per the location of the real estate.	2

Picture 6 Entities responsible for determining the property value and the amount of compensation.
Source: Authors' own study on the basis of (Żróbek & Walacik, 2009)

In the authors' opinion the principle of justice is fully realized in case of determining the property value by independent, impartial experts (China, Hungary, Poland), courts (Sweden, Norway), as a result of the negotiations in the presence of valuers representing each side (Australia, New Zealand) or under the supervision of independent outsiders (Finland). Impartiality of the properties' value determination and consequently the amount of compensation may be challenged, where the value of real estate professionals are employees of certain public authorities (Taiwan, Cyprus, Turkey, Germany).

3. THE GROUPING OF COUNTRIES WITH A SIMILAR SYSTEMS OF COMPENSATION DETERMINATION

3.1. THE RESEARCH METHODOLOGY AND THE ASSUMPTIONS

Systematization of information collected from surveys and the available literature, allowed to achieve another goal of the paper - the creation by means of cluster analysis homogeneous sets of countries within their group and different between groups.

Cluster analysis is a discipline consisting of a set of multivariate statistical methods for data classification into meaningful structures or classes by analyzing the similarities in the tested areas. (Stanisz, 2007).

The classification of the expropriation systems, in particular the systems of compulsory purchase compensation determination, in the surveyed countries was made with the use of agglomeration method. The measure of similarity between the classified objects was based on the function of the distance - Euclidean distance metric. To determine the distance between the clusters of systems the principle of binding based on the method of Ward was used. This method minimize the sum of squared deviations (variance) within the cluster, which is very effective, and leads to the separation of clusters of relatively small size.

The first phase of research aiming at classification of analyzed systems in different countries came down to the quantification based on ordinal scales, defined in the earlier part of the study, the diagnostic features - the principles developed by FAO. Quantification was based on the principles of assigning to each set numerical values. Because of the fact that each of the accepted principles had a qualitative nature, the concrete representation of numerical values was assigned with the use of interval scales.

The number of intervals was associated with the range of variability of particular feature in the population. As a result of the analysis of information collected through surveys individual states of the diagnostic features were expressed on the two or three staged scales, for each stage natural numbers were assigned. For the first diagnostic features - principle of equivalence, the number of degrees of the scale was determined by number of elements taken into account while determining the amount of compensation.

In case of compensation of all elements, the expropriation systems of selected country were assigned a value of 3, part of the elements value 2, while the compensation of one element led to the assignment of the value 1. Quantification of individual values in the principle of balance interests of the parties, was based on a two-step scale. Countries in which property owners have the option to return the expropriated properties were assigned a value of 2. Countries for which no reply was received to this question has been attributed a value of 1. Because of the fact that verification of the principle of flexibility in its scope included 2 issues – forms of the compensation and the admissibility of the differences in their values, countries in which it is possible to obtain compensation in the form of a replacement property were assigned the value 2, countries in which it is not possible were assigned the value of 1. In addition, where there was a possible difference between the amount of compensation and the replacement property the assigned value of 2 was enlarged by 1. Quantification of implementation of the fourth principles - unity of the procedures, was slightly different. It was assumed that when a country allowed to apply different approaches of determining the amount of compensation, the principle of fair compensation could be fulfilled in a wider sense, what is important in terms of different nature of loss resulting from expropriation. Countries with all three approaches were given three points, only a comparative approach and the income – 2 points, only comparative – 1 point. Hungary because of the least market nature of the a comparative approach received 2 points.

The last principle used as comparative criteria of expropriation systems - fairness and transparency was based on a two-step scale. Countries which, according to the authors, fully

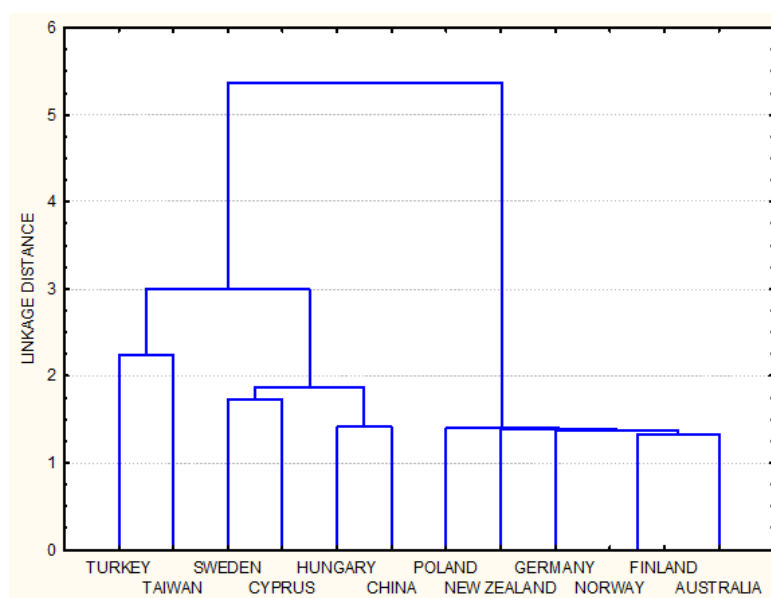
implement this principle were assigned a value of 2, while the countries in which the fulfillment of the rules can be questioned – 1 point (Picture 7).

COUNTRIES	RULE 1	RULE 2	RULE 3	RULE 4	RULE 5	SUM
Australia	3	1	3	3	2	12
China	2	1	2	3	2	10
Cyprus	3	2	2	2	1	10
Finland	3	2	3	3	2	13
Germany	3	2	3	3	1	12
Norway	3	2	3	3	2	13
New Zealand	3	2	3	2	2	12
Poland	2	2	3	3	2	12
Sweden	3	2	1	3	2	11
Taiwan	1	2	1	3	1	8
Turkey	1	2	2	1	1	7
Hungary	2	2	2	2	2	10
SUM	29	22	28	31	20	

Picture 7 Quantified values of the diagnostic features
Source: Authors' own study

3.2. RESEARCH RESULTS

The cluster analysis method helped to generate results in a tree diagram (Picture 8).



Picture 8 Tree diagram
Source: Authors' own study

It shows that the 12 surveyed countries can be divided into several groups in terms of similarity (fullness) of the principles from the FAO's publication. Countries that received the highest, according to the adopted scale of assessment, number of points were Finland and Norway. All of the principles described in these countries have been adopted as

fully as possible what brings to a conclusion that the systems for determining the compensation of those countries are closest to the model developed by FAO. The next closest countries in terms of rules for expropriation compensation determination are Australia, Germany, New Zealand and Poland. All countries received 12 points.

Slightly bigger differences from the FAO's model can be seen in Hungary and China (both countries in terms of its' solutions are classified into one group). A similar situation occurred between Sweden and Cyprus (one group), with the difference that the linkage distance in their case has reached a value closer to 2, reflecting their greater diversity. Group of countries whose systems of expropriation are furthest to the model developed by FAO are Turkey and Taiwan. The factors that are determinative in their cases are: the number of elements taken into account while determining the amount of compensation - in both countries, the only component of compensation is the value of expropriated right, no ability to obtain the replacement property (Taiwan), lack of implementation of the principle of fairness and transparency and a small quantity of acceptable approaches for determining the value property strongly narrowing the possibility of taking into account different losses resulting from expropriation.

4. CONCLUSIONS

The results of comparative analysis of different compulsory purchase compensation solutions made on the basis of available data should be considered in rather methodical than the strictly utilitarian context. They indeed suggest that the issue of compensation is very complex and requires very specific and uniformly interpreted input data. Both the adoption of five principles developed by FAO as a model solution and the quantification of diagnostic features is the original proposal of the authors of this article. The obtained results, which should be approached with a certain distance (there is always a possibility that the respondents did not interpret the questions in the same way) , justify the need for further research in this field. For example the lack of data has been noticed in the following issues:

- what are the definitions of market value and replacement value in particular countries (here it is important to note the question - what types of consumption are taken into account in valuation)
- what is the date and the land use taken while determining the value of expropriated property and the value of the additional losses
- how was the fixed amount of compensation perceived by the owners of expropriated properties.

Although many organizations and individuals have taken this theme in their work, much still remains to be done. The essential element is the exchange of national experiences and knowledge of specialists in this field. Activities in the light of the current FIG involvement of its' members seems to be very up to date and needed while organized conferences and symposia irreplaceable.

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