

Externalities as Compensatory Criteria of Compulsory Expropriation Actions

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Abstract: Ownership/private property and property inheritance are concepts well-established and constitutionally protected in our modern societies. Nevertheless, numerous provisions in the national legal framework enable the states to expropriate individual private goods under certain severe circumstances through compensation prerequisites. The present manuscript presents a short comparative study of the constitutional articles of many countries, regarding expropriation actions, examines the compensation techniques employed, and interrelates expropriation implementation with economic analysis methods and experimental economics. Furthermore, this paper states that the current Greek expropriate methods consist of an economic disturbance and externality in economic terms.

Key words: Compulsory/forced expropriation, externalities, compensation, constitutional law, experimental economics, ownership, possession, economic analysis method.

1. Introduction

The conceptual approach of property in the modern history (age of enlighten) was adequately stipulated and defined by the French encyclopedic Jean-Jacques Rousseau in his *Social Contract* [1].

The significance of the Rousseau's social contract lies in the fact that it transforms the isolated individual, as a single unit incorporated in a wider social group, which keeps its social rights and all individual characteristics including its particular preferences in communal life. Characteristically, the encyclopedic notes, "...A community is functioning in such a manner that each individual is under protection, by all means, including all goods that a member possesses..." It is apparent, that all community members should obey to the community rules, thus the degrees of freedom to all members are expecting to be limited. Nonetheless, the outcome is substantially beneficial since all community individuals lead a much easier

life in almost every aspect [2].

As regards the framework of the social contract, individuality succumbs to the common cause; members are undergoing self-constraints and social viable contracts even through unrecorded ethical code. Given that each member has its own capability/aptness (physically & mentally speaking), it is contributed in a different level under the supreme guidance to the aforementioned common cause. Therefore, the physical rights i.e. the rights of human acting out of any community norm are ceded to the social unity [3].

Greek Constitution in Part two, regarding individual and social rights, and more specifically in Article 17, specifies issues about property protection and expropriation. Thus, it is defined that: "...The property is under the protection of the State; nonetheless, ownership rights cannot be exercised to the detriment of the public interest. No one shall be deprived of his possessions except for in cases of public interest which has been duly proved for lives sake and when on court challenge in dispute, for the provisional determination of compensation..." [4].

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Court decision about the compensation to be granted is always determined at the time of the verdict, regardless of the elapsed time, up to that point. The final decision must specifically justify the possibility of reimbursing the cost of compensation. The compensation, if the beneficiary consents, can be paid in kind, including, in particular, property ownership or rights transfer to another property. The expropriation value to be determined could be changed in future time after the deed issuing [5].

The compensation is determined by the competent courts. It can also be appointed temporarily in court, after judicial hearing or the beneficiary summon. Beneficiaries are obliged, according to court's will, to provide the corresponding guarantee as the law imposes. The same article regulates all pending trials, until the temporary or final compensation is granted, all the rights of the owner are kept intact and confiscation is not allowed. Projects of general national importance are allowed to be carried out even before compensation determination and granting. Income loss is adequately defined by certain law provisions regarding the appropriate compensation to be granted to the beneficiaries. Extra provisions are set in sake of public benefit [6].

As regards Article 18, sites of great interest, are under special constitution e.g. mines, caves, archeological sites & antiquities, surface and subsurface water, lagoons, dried up wetlands, etc. On special occasions imposed by the armed forces and/or public health and safety, further requirements and provisions are set out. Agrarianism and land merging is allowed for the intense exploitation of the cultivated land along with counter measurements for excessive land fragmentation avoidance [7].

Unjustified verdicts imposed by special occasions, can be revoked by the Council of State after filing a request from the individual of legal interest. Co-ownership related matters are regulated by special provisions prohibiting the expropriation of listed Holy Monasteries' real estate [8].

Likewise, Article 23 of the Constitution of the Republic of Cyprus states the following clauses regarding the securing of property and its expropriation: "...All individuals have the respected right to acquire, own, possess, enjoy or transact any movable or immovable property. Groundwater, ore mining, antiquities issues are as well preserved. Property rights are in accordance with the public safety & hearth interest and public morals, always promoting the public benefit, insuring the benefit protection of the rights of third parties..." [9].

The Republic enables the expropriation of either any movable or immovable property in favor of educational, religious, charitable or sports associations or organizations or institutions under conditions. Civil court regulates disputed compensation issues. A certain time period i.e. three years is given to employ any immovable property, interest or right after expropriation, otherwise after expiration the expropriated right is returned to the pre-owners under bilateral agreement. When agrarian reform is the case, plots of land are granted to individuals, which are part of the local community. No expropriation actions are allowed in case of bishop, monastery or any other ecclesiastical organization's property, except for very strict conditions of public interest. Special provisions are set for the Muslim minority community so that Muslim religious institutions' properties known as "*vakufs*" are subjected to approval of the Muslim Cypriot Community Assembly. In disputed verdicts, the Appeal Court undertakes the burden to reach the final decisions [10].

Republic of Cyprus legislation justifies forms of forced expropriation in cases where the State unilaterally, directly or indirectly, commits substantial property deprivation without issuing an expropriation deed. Furthermore, property acquisition rights are well established by Article 17 of the *Universal Declaration of Human Rights*, along with the *First Additional Protocol to the European Convention on Human Rights* and the Article 17 of the charter of

Fundamental Rights of the European Union. Once again, it is apparent that conflict of interests raises all property deprivation issues between individuals and community interests and by all means state interest is prioritized [11].

Conflicts of interests, are ending up with a fundamental compromise which is integrated into the institution of the “forced expropriation”, postulated in Article 17 paragraph 2 of the Modern Greek Constitution, the regulatory clauses of which are literally given as: “...the deprivation of property by a unilateral act of the state for public benefit, determined by law, and against a judicially determined compensation of the owner...” [12].

Greek Constitutional law incorporates certain guaranteed compensation clauses in case of expropriation and more specifically compulsory expropriation is allowed only if three conditions are met:

- (a) Public benefit,
- (b) Legislative provision and
- (c) court-determined compensation.

Related with expropriation Greek Court decisions e.g. 1781/2008 and 1054/2008, declared the execution period within one and a half years and devaluation issues as leftovers/remnants of expropriated properties were taken into serious consideration and regulated a bigger compensation. Additionally, the last Supreme Court 825/2008 decision determined the nullification of the compulsory expropriation. Nowadays, modern constitutions consolidate individual's property rights and describe analytically the stages that necessitate the property expropriation in sake of the public benefit [13].

2. Constitutional Laws in Various Countries—A Comparative Study

German constitution outlines the right to property possessing in Article 14: “Property and property inheritance are guaranteed and determined by the valid legal framework. Ownership entails obligations.

Property exploitation will also serve the social welfare. Expropriation is allowed only for the public benefit. It can be implemented in accordance with the currently valid legislation that determines the type and the amount of the compensation” [14].

By compensating a fair balance is established between the public interest and the interests of the persons concerned. In the event of a dispute over the amount of compensation, recourse to the ordinary courts settles the divergence [15].

In Belgian constitution, property is properly protected by the content of Art. 16, which rephrased postulates: “No one is deprived of his property, except for the case of expropriation for public purposes, which those particular purposes/circumstances are all prescribed in the current legislation, regulating a just compensation payment in advance.”

In the current constitution of Spain and specifically in Article 33: “Property and inheritance rights are officially recognized. The rights of Article's reference are determined by the upper social service it incurs. Once again, it is assured that no one shall be deprived of his property and ownership rights except for the public interest issues.”

The constitution of the Russian Federation equally protects property rights as Article 35 denotes: “The right to possess is by all means legitimate and definitely protected by the law. All individuals are entitled to possess, to manage in every way as single being or associated entities. No one can be deprived of their property unless a court decision imposes a different verdict. Conditions and procedure for land management and exploitation of all kinds are under the jurisdiction and determined by the federal law.”

The constitution of Albania and specifically in article 42 paragraph 1, states that “...The freedom of the individuals, the property and rights recognized by the Constitution and the laws may not be violated without the due legal procedures...”

Throughout Greek constitutional history, it is remarkable to take care of the established ownership

right, along with the potential public property deprivation for the benefit of the always superior public need [16, 17].

3. An Economic Approach to the Environment

Environmental issues and economic activity are closely interrelated. Physical resources are converting into economic goods. In this ongoing conversion processing, waste is generating incurring environmental degradation as a logical outcome. Environmental problems are considered to be extremely complex and hard to reach the optimized solution [18].

The price of a product must accurately reflect the actual cost. Nonetheless, potential environmental degradation through production processing is not always included in the overall market price of the product. Given that the “externalities” define all consequences—both positive and negative—in a certain economic zone in a proximity to the considered economic activity i.e. industrial production, services etc. public land is suffering negative externalities as a result of the below mentioned:

- The tragedy of the commons
- The low supply of public goods

In order to overcome the noticed market failure, a proper environmental assessment must be carried out. That entails an assessing of the negative outlined externalities of human activities that undermine in terms of quality of the “natural capital”, by capitalizing all beneficial aspects of the intact environment in the humankind. As such, are considered to be the well-preserved ecosystems, species diversity, the good quality of the clean air, water, crops production etc. [19].

From this standpoint of view, CBA (Cost-Benefit Analysis) is a very useful and powerful evaluation tool. The CBA is widely established as an essential tool for policy/decision making planning. Since environmental policies in general, are getting even more complexed and difficult to determine (e.g. global

warming, loss of biodiversity, health effects of local air and water pollution), certain countries have introduced special legislation that environmental impact and cost-benefit assessments and regulations are demanding. Apart from CBA, other assessment techniques were emerged on the field of ecology as an alternative handling tool. It is worth noting that CBA technique is the most comprehensive process amongst the below given ones [20]: EIA (Environmental Impact Assessment) or EA (Environmental Assessment), SEA (Strategic Environmental Assessment), LCA (Life Cycle Analysis), RA (Risk Assessment), Cycle Risk Analysis (CRA), RBA (Risk-Benefit Analysis), RRA (Risk-Risk Analysis), HHA (Health-Health Analysis), CEA (Cost-Effectiveness Analysis), MCA (Multi-Criteria Analysis) [21].

4. Tax Policies for Dealing with Environmental Problems

Economists have developed a number of policy options to address environmental issues. There are two major market-based instruments that are often discussed for reducing GHG (Greenhouse Gas) emission ceiling and trading system and GHG (carbon) tax [22].

“Ceiling and trade” is a business oriented approach used to control pollution by providing financial incentives to reduce GHG emissions. According to a system of negotiable licenses, a permissible overall level of pollution is determined and distributed among companies in the form of licenses. Companies that keep their emission levels below the permitted level can sell their excess quantities (margin) to other companies or use them to offset excessive emissions elsewhere in their facilities [23].

On the other hand, a GHG tax is a Pigouvian tax that can serve as an efficient mechanism to achieve a cost-effective reduction of GHG emissions (incl. CO₂). CO₂ carbon trade market coexists with JI and CDM credit green mechanisms [24].

Through a “ceiling and trade” approach, an imposed GHG emission tax makes use of the power of market price signals received to encourage the substantial reduction of GHG emissions, emitted from various sources. These policies are not controversial *ad hoc*. Nonetheless, quite often controversies always exist, focused on the policy that regulates issues upon the final implementation details. Both the GHG emission taxes and the system of “ceilings and transactions” are subjected to political compromises that may reduce the effectiveness of the policy [25].

5. Prosperity and Environment

Undoubtedly, environmental degradation is undesirable. However, goods’ production is a necessity for our modern societies, though detrimental to the natural resources’ sustainability. In any case the following question is inevitably prompted, that is, “to what extent is determined the impact of the environmental damage on prosperity?” Upon answering this question, economists introduced an MEW (Environmental Welfare Measurement). MEW defines GDP (Gross Domestic Product) as a reference point to the overall estimation. GDP is adjusted to the value of leisure time and the amount of unpayable labour (positive impact) as well as to the value of environmental damage caused by industrial production and consumption (negative impact).

It has been developed a broader macroeconomic index based on the MEW, i.e. the ISEW (Sustainable Economic Welfare Index), which is applied over economic, social and environmental activities. ISEW adapts national accounting practices to include a broader set of determinants of prosperity, including military expenses, environmental conditions evaluation & preservation and physical capital depreciation [26].

6. Waste Management

Significant concerns about the wide range of potential environmental impact of waste management

have emerged in recent decades. The nature and extent of these effects depend on the amount and composition of waste streams, as well as the method adopted for their treatment (landfilling, composting, waste to energy technologies, etc.). Improper waste management incurs soil and groundwater contamination, threatening ecosystems and the health of the exposed population of all habitants [27].

In numerous cases, landfilling overpasses the operational life time. Thus, operational disposal facilities are becoming congested and re-establishment in new pre-elected areas is basically a political decision with multi consequences for the stakeholders (legal actions). Similar obstacles are coming up when for instance incineration plants are to be erected to produce energy. Dwellers, nearby energy installations are skeptical and usually against any waste energy exploitation according to the “not in my back yard” standpoint. Furthermore, transboundary hazardous waste shipment is incremental so that EU regulates monitoring procedures to diminish the risk exposure to human health and to ecosystem in general [28].

7. Economic Analysis of Expropriation

“Pareto effectiveness” is considered to be a prerequisite criterion when studying the well-being of a particular economic mechanism. Apparently, regardless of economic theory approach to be adopted the effectiveness of the total production overlaps in any way the model of the distribution product. Mechanisms incurring maximized results, given the same raw materials employed, are always preferable. However, the constitutional ban on incorporating positive or negative externalities for any compensation leads to another distortion of Adam Smith’s “Invisible Hand” function due to State intervention [29].

Public economic analysis seeks to internalize (i.e. enhancement of the final compensation), the externalities (positive or negative) caused by the production or consumption of a private good so that natural resources are equally distributed. Expropriated

property causes positive external economies or even external disturbances (negative affect) and can be characterized as an intermediate good between public and private good, which awaits the internalization of the externality in such a manner that the system reaches a certain point of the so called general macroeconomic equilibrium [30].

8. Optimized Compensation Evaluation by Means of Experimental Economics

The *Economic Analysis of the Law of Contracts* lists the financial criteria that the court should take into consideration upon execution of a private contract, with respect to a dynamic approach of potential changes in terms of monetary valuation in the pre-determined future. The criteria were formed based on a questionnaire submitted to a number of interviewees following a face-to-face contact with a fully strategic analysis of the interviewing outcome in the aftermath. A widely established methodology has been adopted to extract questioned groups' preferences and reveal their personal opinions by means of the given ad hoc questionnaire to be answered, the so called DPM (Declared Preferences Method) [30].

Since there are certain goods to be considered as non-marketable goods, e.g. cultural heritage, environmental quality level (natural, urban) etc., which is commonly accepted, it is difficult to attribute any utility value which entails that the values of those goods cannot be measured/quantified directly through purchasing transactions [31].

Declared preference survey provides an alternative procedure to bypass (DPM) limitations. The method eases the research analysts to experiment over preferences introduced by the respondents and to criticize the system influence features, the choices they made and to what extent they exert influence of gravity to the outcome [30, 31].

According to the method each respondent encounters different hypothetical selection scenarios. The scenarios cover a wide range of different system

stages and valuation, in order to ensure the required variability for estimating the linear/non-linear regression model parameters. The method is used to evaluate not only the non-marketable natural goods, but also improvement quality benefits of the environment and the non-utility values [30, 31].

Declared preference method comprises the CVM (Contingent Valuation Method) and the choice modeling method. In the present manuscript, CVM was applied for the contacted research. CVM is considered to be a widely adopted method of valuation of economic figures related to non-variable goods. The scope of the research through the above mechanism is the determination of the WTP (Willingness to Pay) amount of the questioned groups or even the WTA (Willingness to Accept) to lose a non-marketable good. It is based on the economic theory of utility maximization, on the part of the consumers and gives a direct monetary valuation of a non-marketable good according to Hicksian approach [31].

The WTP method was firstly introduced as an organized effort to assess the reforestation and various forestry actions of the damaged Maine St. forest. The author argued that the actual market behavior could be simulated by a case study, in which, alternative exploitation uses should be proposed to the public, to offer the highest possible benefits [31]. In previous times, the method encountered severe criticism by v method encountered severe criticism by various economists considering the answers given to the questionnaires as unreliable or even worse as irrational.. Nowadays, WTP is considered as a reliable method and its results are socially & scientifically accepted. The critical part of the method is the proper structure of the questionnaire to be used. It has to ensure research reliability and necessary information flow about the property/good under investigation.

The questionnaires are divided into six sections. The first one introduces the purpose of the research and the context for making a decision. The second

section provides a clear and detailed description of the good so that it can be properly evaluated. A well-formed attitude of the respondent towards the investigated issue i.e. goods, facilitates the whole evaluation procedure. The third section incorporates all methodological scenarios, including the current or initial state and the possible future evaluation options of the goods.

In the fourth, known also as export section, the respondents are asked to state what is the maximum price to evaluate the good (WTP) or the minimum, to lose the benefit of it (WTA) respectively. All answers selected are undergoing special analysis in the fifth part. Finally, the last part (sixth) of the methodology incorporates socio-demographic characteristics of the respondents. The type of questions postulated in the questionnaire is of vital importance. At the last part, respondents are asked to declare the maximum WTP. Closed-ended questions addressed to the respondents are to be answered in a (yes/no) format.

The WTP served, in the early 1990s, as an improved method of pair wise comparisons or a single multiple-choice query. The efficiency of WTP estimation can be increased if repeated questions are used. The analyst is entailed to examine the reliability of the answers and try to minimize the discrepancy between the debated scenarios described by the researcher and the respondent's standpoint upon the debated scenario. Information gathered about the real motivation of the people who give the answers can also be helpful to explain and interpret the different responses.

Consequently, an approach and interpretation of the CVM by means of the economics will be attempted. From the perspective of Welfare Economics, public benefit may be justified under a potential "Pareto condition" improvement. That is the case that the total welfare comprises all positive and negative externalities. In this context, the total welfare assures greater efficiency in the allocation of economic resources. However, the calculation of the total social

benefit requires not only the assessment of the benefit of an individual but also the overall estimation in the relevant population. The exact measurement required in the individual benefit assessment process, is the net income change, associated with the quality or quantity of a non-marketable good change. The CVM questionnaire research provides information for calculating the WTP monetary units' distribution for a proposed change to a non-tradable asset.

The cumulative probability function of WTP, (G_c) and the corresponding probability density function, (g_c) depend, both, on the format of the query (questionnaire). In the case of an open-ended query, individuals are asked to declare their maximum WTP directly, assuming that (A) is the contingency and $Pr(A)$ denotes the probability that a person's WTP is equal to A , thus:

$$Pr(WTP = A) \equiv g_c(A) \quad (1)$$

In the case of closed-ended query form, where the participants are asked if they would pay a certain amount of money, even A , then the probability that their WTP is equal to or greater than this amount is:

$$Pr(WTP \geq A) \equiv 1 - G_c(A) \quad (2)$$

The CVM combines the economic theory related to the structure of the quantified "utility function" and the economics related to the way in which various changes are processed. In order to obtain the WTP distribution, two approaches have been proposed in the literature.

Utility function structure is expected to be affected by the assumptions made about the systematic error term of the methodology. The CVM evaluates an individual's WTP or the WTA of a change in the quality or quantity of a good through the research mechanism.

The CVM is preferable over the others on account of its simplicity and advantageous methodology. The application of alternative valuation methods is much more complex and requires various parameters' identification which is out of the scope of the present manuscript's research framework.

The theoretical utility model provides the basic framework for interpreting the receiving responses in the present research. Since those responses are usually considered as random variables, the economic model must include a stochastic variable, and the WTP distribution runs under the assumption that each interviewee involved maximizes its usefulness.

The probability model might be parametric or not parametric depending on the reference amount and the likelihood for a positive response to be interrelated in an incremental trend. The prompted graph depicts the probability function and could be considered as the demand curve for the studied goods. In the parametric approach, the likelihood for a positive response is a known function of the bid/offering amount, whereas in the non-parametric approach it is considered as an unknown function.

Two more important differences can be distinguished between the two afore-presented approaches. Firstly, non-parametric methods support different supply levels as separate ongoing incidents and secondly, in non-parametric approach, it is possible to estimate the required probability distribution for certain points and in order to deduce useful interrelationships to interpret the proper economic policy to be induced, those points should be interconnected. Numerous ways upon interrelation have been proposed from time to time in the scientific literature, the most notable of which are the linear regression, Kaplan-Meier-Turnbull estimation and “smoothing method”.

9. Conclusions

Vilfredo Pareto describes the excellent distribution of financial resources that meets the criterion of efficiency and social justice. The Constitution of Greece describes the process of forced property expropriation in case of a public need. The compensation criteria for an expropriation do not take into account the positive and negative externalities resulted from the subsequent public work which

incurs unfair social distribution of financial resources. The upper aim of the present manuscript was the investigation of compensation system weaknesses that do not meet Pareto’s optimization criteria.

V. Pareto defines the optimal distribution of financial resources between two parties. At the optimum exchange point, the level of excellence, distribution of financial resources cannot be altered in a beneficial way to all individuals. Even more, a consumer individual cannot take advantage without provoking harm to another individual. That is, a mutually beneficial transaction between consumers is not expected whatsoever.

In a Pareto scheme, where both consumers benefit, as regards their original assets point, is called the “contract curve”. FWT (Pareto Welfare Theorem) indicates the competitive market as an allocation mechanism of general financial resource, to achieve excellent Pareto results in the economy. In fact, FWT is the official formulation of Adam Smith’s aspect on the “invisible hand” of the market. Since every competitive counterbalance is optimized according to Pareto theory, the only excuse for intervening in the economy mechanism is to achieve redistribution of the financial means.

Externalities or external economy are ongoing when the actions of a participant in the market affect another participant in a way either unfavorable or beneficial and no financial compensation takes place. Externalities might be present either on the side of the demand or on the side of market’s supply.

The Constitution of Greece sets all forms of property under the aegis of the State. The “state protection” as postulated in Constitutional Article 17, incorporates both individual rights and institutional indemnity provisions. The latter means that ownership is constitutionally established and well protected. The aforementioned Article in fact, enforces the legislator to consolidate a legislative grid to facilitate the legality, functionality, usefulness/profitability and property transferability.

In particular, the legislation assures that the main part of each property cannot be expropriated and its ownership rights to be transferred to the public interest. “Nationalization” or forced expropriation is allowed only in specific cases, under the conditions provided by the Constitution and the laws. In Article 17 of the Constitution of Greece, the constitutional legislator sets, inter alia, compensation criteria of the expropriation. The compensation will be determined by criteria that will not take into account the goodwill or underestimation caused by the subsequent public works. That is, the compensation should not include all positive or negative externalities that will result from the subsequent public work. Thus, such an outcome results in a non-excellent distribution of financial resources which apparently do not meet V. Pareto’s criterion in the aftermath of the expropriation transaction.

The state, according to Adam Smith’s reasoning, intervenes in the market in order to alleviate the social injustice created by the market distribution of resources. He considers the property constitutionally established and its loss is allowed only under great public need. Compulsory/forced expropriation entails compensation to the owner in order to assure that the ex-owner maintains the previous prosperity state. In case that expropriation incident incurs subsequent positive or negative external economies, all resulted changes should be taken into consideration as criteria to determine the finally granted compensation. In any case, the upper goal is the optimized resources’ allocation according to V. Pareto’s criteria of economic efficiency and social justice.

The optimal amount of compensation determination during a forced expropriation procedure can be determined by employing the classic WTA technique which is applied on the interested party (the individual who suffers the forced expropriation) via a questionnaire which is a well-established tool in experimental economics and especially the CVM.

One of the indisputable reasons for the existence of the modern state is, among other things, the safeguarding of property. Undoubtedly, the concept of “ownership” is a social contract incorporated into the Rousseau’s “social contract” since the era of enlighten. The constitutional provisions regarding compensation issues in the case of a forced expropriation are at variance with the fair distribution of resources and it does not meet the criteria of maximum productivity and the equal goods distribution to achieve optimized social welfare.

Experimental economics highlight the paths to extract the proper responses as regards “the willingness to pay” and “the WTA” well-structured questions. It offers a reliable investigation methodology that, despite its inherent weaknesses, it is surely a social regulator for the final determination of the indemnities. WTA variable is affected by various parameters. In general, the optimal compensation determination is a challenge for the cooperation of both direct relative main disciplines i.e. law studies and economics, the outcome of which is expected to be beneficial for the public prosperity.

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