

DOI: 10.31648/pw.6463

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MECHANISMS OF EFFECTIVE GOVERNANCE AND COOPERATION: COMPARATIVE ANALYSIS OF THE EUROPEAN STATES WITH PARTICULAR ATTENTION TO UKRAINE

KEYWORDS: Coase Theorem, institutional mechanisms, Nash equilibrium, local self-government, governance, public authority

ABSTRACT: The research performs an attempt to adapt accumulated approaches of the Institutional Economics to the application of the Coase theorem in public administration. Governance is mainly analyzed in the field of political science, while transactional costs definitely serve to the economic surveys. Solving the problem of social costs, Coase theorem revealed a conception of property rights as the outcome of mere contracting in independent exchanges. This conception is applicable for analyzing a wide range of issues, including externalities related to the use of assets and public goods. The article contains a brief characteristic of the self-governance in European states. The results of comparative analysis of the local governance in European region became a basis for proposing a series of transformation tools for Ukraine and neighboring states in this field. Obtained results of statistical modeling and payoff matrix of Nash equilibrium clearly confirm the validity of the Coase theorem for interpretation of the interaction between local self-governance and government institutions.

1. Outline of the Problem

At the first General Assembly of the Council of European Municipalities in 1953, local representatives from a number of European countries adopted the European Charter of Local Liberties. This Charter was the first legal document in Europe which spelt out the rights of villages, municipalities, towns and cities vis-à-vis national governments. Over thirty years later, the development of this Charter was realized within the European Charter for Local Self-Government adopted by Council of Europe, which is currently ratified by 45 of the 47 member states. Today, Council of European Municipalities and Regions (CEMR) is the broadest

organization representing European local and regional governments. It includes 54 national associations of municipalities and regions from 40 European countries, representing over 100 000 local and regional authorities. CEMR is the European section of the world organization United Cities and Local Governments and supports international decentralized cooperation through its own network and through the European platform of local and regional authorities for development.

European experience clearly and unequivocally confirms that local self-governance is a basis of the institutional system. The main features of this system could be introduced by analyzing the European Commission's report *Local Autonomy Index for European countries (1990-2014)* (Ladner/Keuffer/Baldersheim 2015). This project highlights the analysis of 39 European countries during 1990-2014 based on a comprehensive methodology of local autonomy measuring. According to the Local Autonomy Index, experts state an increase of local autonomy between 1990 and 2005, especially in the new Central and Eastern European countries. Countries with a particularly high degree of local autonomy are Switzerland, the Nordic countries, Germany and Poland.

According to this report in the early 1990s, 39 European countries had about 120,000 municipalities, while in 2014 the number of municipalities was amounted to about 106,500. That is, the reduction was nearly 12% for over 25 years. So, the number of municipalities turned out to be quite stable in light of the different social changes over the last quarter of a century.

In spite of the overall high local autonomy in the European countries, some states are still characterized by small number of municipalities or even their reduction. In 2006, Georgia reduced the number of municipalities from 1004 to 69; Macedonia – from 123 to 80 in 2004; Greece – from 5775 to 1033 after the *Capodistrias reform* (and the further decrease to 325 in 2011). Contrarily, the states of Central and Eastern Europe increased the number of municipalities: Croatia (+556), Czech Republic (+2153), Hungary (+88), Romania (+233), Slovakia (+64), Slovenia (+161) and Ukraine (+1052).

Considering the significance of local autonomy, it should be mentioned the case of Ukraine from 1962. The accepted Decree by Supreme Council of the Ukrainian SSR "About the consolidation of rural areas of the Ukrainian SSR" resulted by closing almost 5000 secondary schools, 500 district hospitals, 601 libraries and 596 clubs. Village became not perspective place for living and functioning that caused their leaving by 3,4 million of people during 1964-1975 (Klyuj 2015). Similar processes are observed today.

According to the European Charter of Local Self-Government we can state, that local community should carry out its activity in accordance to the legal status in the state (legal basis); the ability to form and organize itself independently from other local communities (self-governance); the tasks and services it provides (functions); the ability to decide what services it provides and by what measures;

the independently management of the financial resources under its own responsibility (own resources); the independence from the control and influence of the higher level authorities (control); its ability to influence on the decision-making at a higher level (access).

2. The theoretical and methodological framework of the research

New institutional economics stresses standards and accepts diversity in disciplines and methodologies. New institutional economics is a prominent response to the growing relevant problems: to look for alternative organizational arrangements and to explain why some countries are rich while other – poor (Ménard/Shirley 2011). There are many efforts to show that this approach can be widely used. The possible cooperation and interaction between different actors can be analyzed by usage of the excessively traditional instruments of Microeconomics or Macroeconomics. But not far ago this tradition was partly broken by representatives of Institutional Economics, Game Theory and Behavioral Economics.

The interesting could be an attempt to explain the relevance of transaction costs' approach in politics, as well as to show that transaction costs are even higher in political markets than in economic, and how high these transaction costs in politics have been alleviated by designing governance mechanisms (Caballero/Soto-Oñate 2016). Solving the problem of social cost, R. Coase used a simplified conception of property rights as the outcome of mere contracting in independent exchanges. This conception has been applicable for analyzing many important issues, including that of externalities related to the use of assets and public goods (Arruñada 2016).

Among scientists, the issue of institutional interactions was analyzed by J. W. Friedman, R. Gibbons, S. J. Grossman, O. D. Hart, C. Hurtado, J. H. Moore, J. E. Stiglitz. Among the Ukrainian authors, we would like to mention the works of V. Bilotkach (2006). However, by this time there are no theory of the precise relationship between market exchange and patterns of governance, nor of how the change in one is related to change in the other. Considering the Coase theorem as the background, some reasonable ideas were proposed, among others, how and why economic interactions generate institutions of governance in the first place (Underhill 2007). We should also take into account the fact, that Coase didn't even consider the Coase theorem to be a full-scale economic theory, but a useful mental exercise that could be carried out before passing onto more realistic cases (Cassidy 2013).

The problem of unifying functions and size of communities can be analyzed in the context of C. Christensen's theory of disruptive innovation. What is the purpose of self-governance – to attract as many citizens as possible for participation

in governance? For some, an involvement is appropriate, for some it becomes a matter of life. Therefore, the Czech model, for example, with incredible differentiation of functions and sizes of communities looks like the most innovative, in full compliance with the Christensen's approach, adapted to solving the governance problem: involving as many participants in the process as possible. This is precisely because the optimal use of community resources, profitability or growth in the municipal sector of the economy can be significantly matched with the perception of a community member of his/her environment.

Our current research is a next attempt to propose some unusual mechanisms in discussion the most important and serious issues of governance. A scientific research, "The "Taste of Life" As a Mechanism of Overcoming Corruption" (Hurnyak/Kordonska 2018), was an attempt to consider the degree of an individual's satisfaction from living, functioning and carrying out own activity in society in accordance with economic rules and orders. To solve this problem, three approaches were applied by considering the "taste of life" as a function of state authorities' services, shadow activity and communal budget. Based on statistical modelling, the authors identified the degree of state's regularities in society. According to the results, the behavior of those individuals who want everything to be taken over by the state and those who do not want to change anything (shadow budget is approximately equal to the official budget in Ukraine) is similar, because the shadow sector works very effectively (from their point of view) and therefore the efficiency of the state and the community should be built through the effectiveness or inviolability of the shadow sector.

Consequently, the scope of the research is an attempt to adapt the accumulated views and approaches of the Institutional Economics to the application of the Coase theorem and other institutional mechanisms in public administration, in the context of the use of public goods by taking into account a wide range of economic instruments.

The first part of the article contains a brief characteristic of the self-governance in European states. In the second part we made an attempt to use Coase Theorem in Self-Governance for Europe with the particular focus on Eastern and Central Europe. The special attention is paid to the deep investigation of the Ukrainian reality, because the system of local governance in Ukraine is still in searching an effective model, overflowing with the residual tools of the vertical Soviet governance model and the inherited informal institutions trying to survive in the face of new technological challenges. The basis of research is the results of the 50 communities' observations in Ukraine. Apart from this, the presentation of the existing Ukrainian model was introduced by the groups' integration, highlighted by the payoff matrix of Nash equilibrium. The results of comparative analysis concerning the local governance in European region became a basis for proposing a series of transformation tools for Ukraine and neighboring states in this field.

The basis of our research is discrete and continuous variables. Such approach is reliable by taking into account, for example, Spearman's coefficient which involved the relative order of the values rather than comparing means and variances and using for it both continuous and discrete data. The other example is Kendall's coefficient that is appropriate for discrete data using. Our task in such situation is to detect monotonic association. As we know, in already simplest cases the results of Polychoric correlations (determination of the connection between several quantitative features) and even Pearson correlations are not significantly different. So, depending on scope we would like to reach, linear correlations and regression (if at least dependent variable is continuous) are not limited to usage of continuous variables, but can be based on discrete variables as well. They can differ only in the purpose of such application.

3. Brief characteristic of the self-governance in particular European states

3.1. An example of Poland

Municipalities of Poland (*gmina*), accounted by 2479 entities, are protected in accordance with the Constitution. The municipal council (*rada gminy*) is composed of councilors elected by direct universal suffrage for a four-year term. Municipal council has the legislative power; votes the municipal budget and determines local taxes. The council is sub-divided into commissions responsible for the preparation and execution of decisions taken by the municipal council. Members of the commissions are elected by and from among the municipal councilors (CEMR 2017).

Municipalities have the right to apply to the court (even to the Constitutional Court). However, they are not listed in the Constitution (opposed to Switzerland, for example, where in order to unite the communities it would first be necessary to change the Constitution of a particular *canton*, where they are listed). That is, central government of Poland has the possibility and right to change boundaries of *gmina* after indisputable local consultations (even if in practice this happens very rarely). Today for this purpose in Poland the obvious condition is a referendum.

The intervention of the Constitutional Court of Poland to the functioning of municipalities can ensure the protection of their rights and local autonomy. Such intervention had a significant role. We would like to present some cases of the Polish municipalities aimed at using their constitutional rights. First one is the case of Grabówka village. The Court issued a decision of the unconstitutional government interference to the community concerning the decision of exit from the consolidated municipality. That is, generally, government does not follow the aspirations of Polish village in the matter of formation of the separate municipalities of independent and

autonomy functioning. The other example is an attempt to use the legal rights by Novosolna community. In this case, citizens collected more than 500 signatures (twice as needed) against building the pig farm. Public activists, outraged by the inaction of the community council, came to the council to express their position. They had a legal right to take part in the meeting of the community council, but none of their speeches was recorded in the protocol of the meeting. Moreover, all these speeches were illegally defined as unofficial (Bednarek/Dmochowska-Dudek 2016). In such critical cases the popular behavior of mayor (*wójt*) is his justification by a “bad” secretary. Mayor also refuses to defend community interests in the court. Consequently, the constitutional right of the community to referendum was not realized. The mayor also did not realize the promise given to public representatives about the consideration of the project on the ban on construction of large pig farms on the territory of community.

According to the real state of Polish system, authors of the Report on the self-governance in Poland (prepared by qualified Polish professors in the field of municipal law) distinguish the dysfunctions of the self-governance system in Poland (Bober/Hausner/Izdebski at al. 2013):

- statism dysfunction – progressive nationalization of local self-governance.
- autocratic dysfunction – gradual weakening of democratic self-governance.
- bureaucratic dysfunction – administrative inefficiency associated with government domination in the functioning of local self-governance.
- financial dysfunction – gradual decrease of financial autonomy of the local self-governance.
- dysfunction of the EU funds absorption – financing the projects of current short-term needs by simultaneously weak use of EU funds for stimulating long-term changes and development.
- flawed community dysfunction – the development of patrimonial and clientelistic relations; generation of the restricting social capital.
- territory dysfunction – spatially-disordered and uncontrolled territory management, which leads to pathological development of spatial relationships in urban areas.
- dysfunction caused by lack of the subjectivity development – weak ability of the most local communities to stimulating the development of their territory that causes its instability development.

3.2. An example of Denmark

Denmark is a unitary state composed of 98 municipalities (*kommuner*). A new municipal structure came into force in January 2007, based on which the number of municipalities was reduced while their overall sizes were increased (CEMR 2017). The model requires municipalities to have a minimum of 20 000 inhabitants, although those with a population of less than 20 000 are accepted as long as they establish a legally binding cooperation with a larger municipality.

Local taxes provide 60 percent of the total municipal capital, as well as current expenses. Meanwhile, the major source is the income tax, the rate of which an individual of the municipality can choose independently in accordance to the law. To a certain extent, the municipality may also impose local tax rates on private property and local business (commercial property). Nevertheless, the general level of taxes towards all municipalities should remain below the limits set in the annual economic agreements between the National Government and the Local Government of Denmark (Council of Europe 2013). Since 2001, the national government has implemented a “tax-stop policy” which means that one municipality can raise the tax rate only in the case of other municipalities make a decision to reduce their taxes accordingly. Although in some cases, municipalities with a particularly difficult fiscal environment were allowed to act by the exception conditions.

3.3. An example of Czech Republic

A small territory of the Czech Republic contains 6 250 municipalities. The size of municipality varies from 20 inhabitants to 1.2 million. Currently, Czech Republic includes 2 656 municipalities with a population of less than 300 people (CEMR 2017). Another 2 833 municipalities amounted from 300 to 1500 inhabitants. The only one community has more than 100 thousand people. The district level is absent at all. The general specification of the competences provides a completely unlimited space for municipalities to operate in different areas and to provide special services in any field.

Personal and corporate income tax and value added tax are distributed among municipalities, regions and the state on the basis of the formula defined by the law. Municipalities cannot change either the tax rate or the tax base. Meanwhile, they have some discretion regarding property taxes. Municipalities can freely choose their organizational structure and create legal entities and municipal enterprises.

Municipal consolidation has to be approved by all municipal councils. Nevertheless, citizens can cancel this decision at a local referendum (§14 (4), Act 128/2000). According to The Government’s 1998 law-making procedure, municipal associations

should be included to the consultations in the case of particular legislative act. The largest communal association was established just in August, 1995.

Municipalities have the status of territorial self-governing communities, in other words, public corporations that are capable of providing legal relations and have the responsibility for the results of these relations. The basis is the right to ownership (Sedmíhradsk'á 2012). The property was returned to the municipality within two waves. The first wave took place in 1991, so the inhabitants received back most of their property. The second wave occurs during the process of creating regions in 2000 and the disintegration of districts in 2002, with the subsequent transfer of their responsibilities to municipalities.

In accordance with the Law on Municipalities, independent powers include the management of the municipality, the development and approval of the municipal budget, the creation of legal entities and organizational structures (...), local referendum, municipal police forces, imposition of fines for administrative offenses, the program of development of the municipal cadastral district, the municipal plan, cadastral plan and regulation and cooperation with other municipalities. At the same time, municipalities are divided into 5 categories. Only 205 of them are characterized by "expanded activities". That is, not all of them provide the full range of services and perform the full range of responsibilities.

At present, municipalities receive 20.59% of income based on the three taxes: income tax, corporation tax, VAT, in accordance to the number of inhabitants and coefficients promoted large municipalities. Considering land tax, municipalities can change the coefficient depending on the size of the municipality, but they cannot affect the tax base or the tax rate.

3.4. An example of United Kingdom

The other interesting case is the United Kingdom. Newton and Goldsmith, more than twenty years ago, described the English local system of governance as "the most centralized outside of Eastern Europe." Today, it could be also defined as the most centralized in the Western World (Blackhurst 2002). English local governments remain directly accountable to the UK government and parliament. Local competences are not uniform throughout the United Kingdom as they are wholly transferred (devolved) to Scotland, while other arrangements are applied to Wales and Northern Ireland. There are two tiers of local government in parts of England (counties and districts) and a single tier in other parts of England and all of Scotland, Wales and Northern Ireland (councils). The local authorities in the Northern Ireland could be recognized as the most weak. Their functions are limited to the garbage buckets, swamps and burials, explained by the centralization of the management for the need to overcome the difficulties with sectarian differences

in the province. As a result, non-elected councils in accordance with the strict rules established by the central government or agreed with the executive power.

3.5. An example of Lithuania

In Lithuania, the decentralization reform was initiated by the 6th Government, but till the current 16th Government – the progress in this field could not be observed. That is, a rigid centralized system exists without any perspectives for decentralization or changes in the balance of power between central and sub-national institutions. In 2008, the real reform was considered to be the removal of state administrations at the district level and the cessation of talking about anything. At the same time, the authority still has restricted the rights of communities. According to Lithuanian experts, 23 years of “reforms” don’t lead to the decentralization and to the development of local autonomy but left Lithuania at the same level of 1990 (Kraujutaityte/Riekasius/Burbulyte-Tsiskarishvili 2014).

3.6. An example of Slovakia

Slovakia consists of 2 890 municipalities, with their number increasing from 1990 to 2014. The process of disintegration was the answer against communist integration processes. Self-governance is applied by the right of a local referendum. This mechanism, like in Czech Republic, ensures the protection against municipality consolidation or division. During the first years after 1989, the intensive disintegration processes (based on local referendums) had been dominated. In 2002, further fragmentation of the communities was stopped by law.

It should be noted, that the level of financial self-sufficiency of communities for quite a long time has been remained at the level of 40-50%. Today, it is observed a relative deterioration to the 25-50%. With regard to fiscal autonomy and financial self-sufficiency, the property tax has to be the most important. During the history of Slovak self-governance, the conditional transfers have been dominated. These transfers are characterized by the obligatory costs to the particular industry or projects. Meanwhile, a low share of unconditional transfers was observed in the nineties of last century.

Local governments have the right to hire employees and fix wages (mainly according to the national structure, for example, in education). They can freely make the decision about organizational structure, as well as form their own budget and shared-services organization or other legal entities.

3.7. An example of Slovenia

Slovenia is a unitary state composed of 211 municipalities (*občine*). A municipality can acquire the status of urban municipality if it has a minimum of 20 000 inhabitants and 15 000 jobs, of which at least a half have to be in the tertiary or quaternary sectors. Urban municipalities have more competences than others, including urban transport, hospitals, public services, culture, radio, television and press, and sports and recreation. Municipalities in Slovenia are self-governing local communities established due to the referendum. The municipality's territory includes settlements or several settlements which are linked in accordance to the common needs and interests of residents.

The formal representation of municipalities in the national decision-making process performs the National Council and the Municipal Unions. The National Council is a representative body for social, economic, professional and local interests (in fact, the upper chamber). The National Council may propose laws to the National Assembly, and has an advisory role. It may demand that the National Assembly review decisions on legislation prior to its promulgation (suspensive veto). It also may demand the commissioning of a parliamentary inquiry, which along with its right to a suspensive veto enables corrective measures important for the functioning of a democratic political system.

3.8. An example of Sweden

Sweden is characterized by the clear division of powers between the communes and county councils (*landsting*). Governors have a limited control over the lawfulness of local self-governance related to the use of funds from the state budget, as well as the police functioning. County councils perform an advisory function in the security issues and represent national interests.

The municipal executive committee heads and coordinates the municipal administration, supervises the activities of the specialized committees, drafts the municipal budget as well as prepares and implements municipal council decisions. It is presided over by a chair, the highest political representative of the municipality, which can be referred to in other countries as the "mayor." However, in some Swedish municipalities the "mayor" is the chair of the municipal assembly. The significant feature of the Sweden system is an institute of minority rights, in accordance to which one third of the authorized council (local government) can postpone the decision of the majority or send it to a referendum. Furthermore, a quasi-judicial procedure exists: every member of the community can appeal against a decision if, in his opinion, it violates his rights.

4. Coase Theorem Adaptation to Self-Governance

4.1. Self-Governance in the light of Ukrainian experience

The comparative analysis of the experience related to the local government functioning in European region allows proposing a series of transformation tools for Ukraine in this field. The main problem thesis and the basis for the transformation is a citizen considered as an individual, guided by his own “taste to life” in accordance to the right guaranteed by the state and the community to choose its place in life. That is why, the effective government system is characterized by reasonable and logic relationship between atomization and cohesiveness.

How this main problem thesis could be solved by instruments of the Institutional Economics?

For solving this problem we would like to propose the consideration of the Coase theorem. This theorem has been one of the most influential contributions to come from Economics in the last hundred years. The theory states: if property rights and liabilities for an activity are fully assigned, then an efficient outcome will result, even in the presence of externalities. Moreover, the level at which the activity is carried out will not depend on the particular assignment of rights and liabilities. Or in other words: Given well-defined property rights, low bargaining costs, perfect competition, perfect information and the absence of wealth and income effects, the resources will be used efficiently and identically regardless of who owns them. So, the Coase theorem maintains that, absent transaction costs, the assignment of legal liability for external damage caused by a given product will not affect the levels of production of the damaging good (or of the damaged good) (Wilson 2001).

So, how could we use this approach for the self-governance theory?

Considering the experience of the Ukrainian governance, solution of the main transformation problems could be presented in the form of practical tools, mechanisms and recommendations. A tool to reflect the financial status of a citizen adequately is a real consumer basket. The consumer basket is not only a reflection of the financial state, but also the direction of movement, the reflection of the citizens’ aspirations and the direction of development.

The mechanism of fixing property rights is the establishment of constitutional system (strict adherence to the Constitution of Ukraine and legislation, which does not contain obvious provisions contrary to the norms of the Constitution). The community acts as a defender and guarantor of the private property of its members.

The mechanism of local self-government (opposite to the state ownership) includes:

- termination of the functions of the district state administrations;
- establishment of the executive committees of district councils with community leaders at the head of the committees;
- mechanism for withdrawal the head of the community on the basis of exclusively local procedures with a significant vote of the territorial community;
- restriction of the functions of regional state administrations only to observation the compliance of the Constitution and legislation;
- a clear division of functions between levels of government;
- the prohibition to state authorities (on the basis of the Constitution) to interfere with the issue of local self-government.

The pension system transformation is a gradual transition with the involvement of local self-governance to personalized social and health insurance programs; ensuring the elimination of the social tax paying “to Pandora’s box”.

The mechanism of public institute transformation is an establishment of the Ukrainian council of local self-governance as the second branch of parliament with the right to veto the state authority decisions directly negatively affecting the interests of local self-governance on a similar principle like the models of Denmark or, less noticeable, Slovenia.

The mechanism of implementing the powers delegated by communities is a transformation from the centralized system to the unitary decentralized state republic performed as a system of territorial communities.

Instruments of control and participation in management:

- self-governance of communities and professional associations;
- state authorities under the control of municipalities;
- election of the head of the district police and the head of the district court by local community or the mechanism to veto candidatures for these positions or their recall by local community (united in the district council on the basis of the mechanism above).

Principle of the priority: the community has a priority in the formation of government bodies and the state functioning – by the performance of functions delegated by communities.

Mechanism of economic self-realization: transition from monopolization system to free market based on small and micro business; small farms. The value-added in such system is a main goal of business operation and competitiveness. The local community, in accordance with the Ukrainian national tradition, is the ultimate defender of not only common used assets, but also of private property and businesses of its members.

Tools of economic development:

- formation of the national economic strategy by defying perspective competitive sectors in industry and services (economic restructuring), by taking into consideration resources basis and its productivity, geography market directions and the demand on the world market;
- economic diversification (industry production and services) on the basis of unique features and opportunities for development of the particular community;
- protectionism and promotion of the new, perspective industry and service sectors by preferential credit lines and subsidies for development the competitive sectors of economy;
- scientific and technological development on the basis of state financing, international cooperation and experience exchange;
- transition to free trade policy and intra-industry trade structure with direction to the European market as priority one;
- simplification of the doing business; self-organization of business (based on continental model), development of cooperative business;
- formation *from the bottom* according to the German model of banking system;
- cessation of self-destructive and ineffective cooperation with the IMF, that supports (actually formed) the oligarchy and destroys society.

4.2. Coase theorem adaptation to European states

Keeping in mind the above analysis, the authors would like to propose the following interpretation of the Coase theorem in the case of local self-governance and state authority interaction:

If the ownership rights of the community and the state are clearly identified and fixed, the transaction costs for the protection of rights, their fixation and redistribution are zero or remain at an acceptable level, no matter what is the scale of the community, the problem of governance externality can be solved without local community involvement in the implementation of powers delegated to central authorities.

Let we introduce the following variables according to the Autonomy Index research (Ladner/Keuffer/Baldersheim 2015):

- Legal protection (LP) – constitutional or legal means to assert local autonomy.
- Financial transfer system (FTS) – proportion of unconditional financial transfers to total financial transfers received by the local government. The higher level of FTS, the smaller is need of community intervention.

- Policy scope (PS) – range of functions (tasks) performed by the effectively inclusion of the local government to the delivery of the services (by their own financial resources and/or own staff).
- Central or regional access (CRA) – level of consultation and influence of the local authorities for policy-making on the high level of governance.

Let we assume that central or regional access level (CRA) is a function of legal protection (LP), financial transfer system (FTS), policy scope (PS):

$$\text{CRA} = \text{F}(\text{LP}, \text{FTS}, \text{PS}). \quad (1)$$

Considering these variables for the European states we would like to test the Coase theorem adaptation by using the model of linear regression (Table 1). The model is based on data analysis of 39 countries for 24 years. Some of these coefficients are discrete variables with a small set of values, for others the set of values is significant. The aim of model is to find out the presence of monotonic connection between variables (only strictly increasing or decreasing, but not mixed).

Table 1. Coase theorem adaptation to European states

Indicator/Factors	LP	FTS	PS	Constant
CRA	0,298* (6,5)**	-0,053* (-3,068)**	0,411* (23,9)**	3,164**

Notes: * – β standardized, ** – t-Statistics; R^2 adjusted = 0,335

Source: own elaboration

The results of the regression confirm the significant influence of legal protection (LP), financial transfer system (FTS) and policy scope (PS) on the level of the local authorities' participation in the policy-making on the high level of governance. We can observe the positive correlation between LP/PS variables and CRA. Meanwhile, the correlation between CRA and FTS is negative, that confirms the above assumption and adaptation of the Coase theorem for European states. That is why, if the local governance (community) has fixed rights to ownership, the problem of governance externality can be solved without local community involvement in the implementation of powers delegated to the central authorities.

So, what are the examples of negative externalities in governance? The proper negative externalities arise when citizen exercises the right to participate in the governance within the community, in the interaction of individual local communities, government and communities, in the interaction of the community and citizen. If delegated / non-delegated management functions are implemented, if these functions are not effective, or we observe the emergence of power usurpation – citizens are reluctant to participate and contribute to its effectiveness. This is the main negative externality in the field of management. Worst of all, this phenomenon is manifested in terms of totalitarianism.

4.3. Coase theorem adaptation to the case of Ukraine

With the aim to test the assumption of Coase theorem adaptation in the case of Ukraine, we decide to add some new and significant, in our point of view, variables. The research basis is the results of the 50 communities’ observations. The research sample is balanced between persons engaged in self-governance officially, informally, as well as those who don’t participate in its implementation, but may act as external observers.

1. Do you consider it is acceptable to leave homeland for permanent residence in another country (JCHP)? We will assess the answer as the level of transactional costs. Transaction costs, basically evaluated by economic rigidity indices related to the investment rate of the countries (Vinício Wink Junior^I/Hua Sheng^{II}/Eid 2011). It is also important for the small business in post-communist countries (Nikolaeva/Pletnev 2016), because it plays significant role in public procurement (Sumpikova/Busina at al. 2016).
2. Do you consider it is necessary to elect the chief of police at the district level, the head of the district court, the district prosecutor, or at least the existence of a mechanism for deprivation of power, tools (or mechanisms) available to the community (without the involvement of central or higher authorities)? This variable could indicate the need to participate in management at higher levels (PART_{HL}).
3. How important is the influence of the scale effect? Is it appropriate, instead of consolidating communities, allow them to provide an affordable financial list of functions according to the example of the Czech model (SCALE)?
4. To what extent are property rights of local communities (RS&F) protected? Is the transfer of all joint property of territorial communities at the district and oblast level return to their owners – local communities?

Analogically to first model (Table 1), on the basis of correlation matrix, we may introduce the model in the case of Ukraine (Table 2): the influence of scale effect (SCALE), protection of the local communities’ property rights (RS&F) and the acceptability of leaving homeland for permanent residence in another country (JCHP) on the need to participate in management at higher levels (PART_{HL}):

$$PART_{HL} = G (SCALE, RS\&F, JCHP). \tag{2}$$

Table 2. Coase theorem adaptation to the case of Ukraine

Indicator/Factors	SCALE	RS&F	JCHP
PART _{HL}	0,403*	0,576*	-0,503*

Notes: * – Spearman correlation with significance at the 0,001 level

Source: own elaboration

According to the results of the correlation matrix in the case of Ukraine, we can form some conclusions:

- The results introduce positive impact of the protection of the local communities' property rights for the need to participate in management at higher levels. The positive correlation among RS&F and PART_{HL} confirms that if a person is ready to participate in management at higher levels, then such person shows the same readiness at the local level.
- The next result of the regression introduces the negative correlation between the acceptability of leaving homeland and the need to participate in management at higher levels. So, further analyzing of the features of the sample can prove that the greater is the level of not involvement in the administration structures – the greater bias to emigration. It is interesting to note, that according to the research, in such conditions the identification of development goals in the calculation of the consumer basket or in general the definition of the development strategy, are not particularly important for all types of respondents.
- The influence of the scale effect for the need to participate in management at higher levels is positive too.

Consequently, we can confirm the adaptation of the Coase theorem in the case of local self-governance and state authority interaction for European states, as well as for Ukraine.

4.3.1. Comparative analysis of the groups' attitude to the particular governance issues (the case of Ukraine)

The continuation of the study due to the communities' observations is introduced in the form of the correlation analysis of representatives of two groups, users of instruments of the government system, concerning the governance issues (Table 3 and 4).

Table 3. Users' groups of prevailing system instruments

I	Local level (PART_LL)	Fixed property rights	State level mechanism of community direct influence	Transformation of the banking system based on the local level
II	Higher levels (PART_HL)	Fixed property rights	State level mechanism of community direct influence	No acceptance of community enlargement

Source: own elaboration

As to positive correlation between PART_LL to PART_HL, those who participate in management at the highest level and those who are ready to participate in the management on the local level have a wide range of common interests and opportunities for cooperation (Table 4). The model also highlights the comparative analysis of the two groups’ opinion related to the question of how important is the influence of the scale effect; is it appropriate, instead of consolidating communities, to allow them to provide an affordable financial list of functions (SCALE).

Table 4. Correlation matrix: the influence of the scale effect and national lobbying acceptance

Variable	PART_HL	PART_LL	SCALE	N_LOBBI
PART_HL	1	0,402 (0,003)	0,332 (0,015)	0,385 (0,021)
PART_LL	0,402* (0,003**)	1	0,142 (0,301)	0,042 (0,752)
SCALE	0,332 (0,015)	0,142 (0,301)	1	0,134 (0,313)
N_LOBBI	0,385 (0,021)	0,042 (0,752)	0,134 (0,313)	1
AIM_EST	0,042(0,757)	0,252(0,06)	-0,047(0,722)	0,086(0,526)

Notes: * – Spearman correlations, ** – significance level, AIM_EST – understanding the strategic goal of community development

Source: own elaboration

Group I requires the fixation of community property rights and the direct community participation in governance at the national level through associative structures, representative structures with the direct delegation of a community representative. Group II is favorable to the model of group I, but does not understand the significance of the banking system transformation. Two groups recognize the decisive role of local self-governance and its mismatch status nowadays with an effective governance system involving both, the community members and the state authority.

The next approach represents a correlation of defined groups with the variable N_LOBBI. This variable represents citizens’ opinion to the question: “What is your opinion related to the importance of lobbying (supporting a national producer by public purchases, preferential loans, etc.) in the conditions of inability to compete with foreign producers?”

Representatives of the first group do not have an understanding of the lobbying of a national producer or, from another perspective, a local producer, which can be explained by a certain deformation of ideas about functioning of the economic models in the modern world, post-communist experience¹, shortcomings

¹ As of 1991, the majority of the population in Ukraine could be described as Soviet people, i.e. a specific form of ethnic and cultural community that primarily identified with the USSR and not the Ukrainian Socialist Republic where they actually lived. As an overall reflection of the *homo sovieticus* psychological type, Soviet people were characterized by specific psycho-physical features, first of

in the received economic education or adherence to neo-liberal ideas that they are unlikely to know.

Competitiveness of the national producer cannot appear from nowhere. In order to withstand competition, subjects of the market firstly have to develop and adapt to the hard market conditions. If the local/national market has just forming or did not exist at all (in conditions of actually lack of the market institutions), then how can the producer withstand competition of foreign producer (equipped, educated, “armed” with access to cheap money). International agreements provide adaptive regimes that promote such states. At the same time, sometimes the governments of the just emerged states cannot understand the need of gradual steps. And hence, communities are missing out on serious tools for their economic development.

Both groups have no understanding about the significance of the problem of property manipulation at the national level. Under these conditions, the visual emotional perception of events comes to the fore.

If a person acts, through participation in higher levels governance, direct participation in the formation of an institutional environment, but not through decisions of central and other authorities, then it requires definite strategic goals for development, in particular through the mechanism of the consumer basket. But only in case of group II we get such weak statistical dependence (Table 4).

4.3.2. Payoff matrix of Nash equilibrium in the case of Ukraine

The presentation of the existing Ukrainian model can be introduced by the groups’ integration, highlighted by the payoff matrix of Nash equilibrium. This research is the next step to combine approaches of the innovative economy, the institutional economy and the game theory for the analysis of Ukrainian society that is overwhelmed by the consequences of the command system (Hurnyak/Kordonska 2019). According to the game theory, Nash equilibrium is a solution concept of a non-cooperative game involving two or more players in which each player is assumed to know the equilibrium strategies of the other players, and no player has anything to gain by changing only its own strategy. The Ukrainian model is in the position (not cooperate / not cooperate) in the payoff matrix. These two visions have not enough points of intersection or tangency (Table 5).

all by paternalism. In 1991, the majority of Ukrainians were not only unprepared for market reforms but also avoided active engagement in social and political life. In this context M. Dolishnij (2006, 115) remarked that “successful reforms of the country’s economy in general and the development of an efficient administrative system at the national and regional levels is impossible without the development of a civil society.” In present, we can state, that Ukrainian society is characterized by the post-communist syndrome which authors of the article understand not only as a denial of ineffective practices of a totalitarian society, but also as a rejection of the plurality of approaches, complex analysis, painted and not marginalized decisions.

We know from the previous analysis about the existence of monotonic association between described variables and we don't intend to compare any means and variances. In our analysis we will use only adjusted R^2 . The adjusted R-squared compares the explanatory power of regression models that contain different numbers of predictors. For the application of linear regression an irresistible restriction is only the continuity of a dependent variable. Count data with higher means tend to be normally distributed and by taking into account such fact we can use ordinary least squares. Let's assume that in our case PART_LL and PART_HL are such type of data (Table 5). If we will exclude alternately all factors from the proposed theorem, correlated with PART_LL and PART_HL, we will observe a changes in a payoff matrix (Table 6).

Table 5. Payoff matrix² of the group interaction in the case of absence the Coase theorem limitations

		PART_LL	
		Cooperate	Not to cooperate
PART_HL	Cooperate	0,16; 0,16*	0,16; <u>0,213</u>
	Not to cooperate	<u>0,23</u> ; 0,16	<u>0,249</u> ; <u>0,249</u>

Notes: * – adjusted R^2 for the proper model
 Source: own elaboration

Table 6. Payoff matrix under the constraints of the Coase theorem

		PART_LL	
		Cooperate	Not to cooperate
PART_HL	Cooperate	0,26; 0,26*	<u>0,26</u> ; <u>0,284</u>
	Not to cooperate	<u>0,278</u> ; <u>0,26</u>	0,236; 0,236

Notes: * – Adjusted R^2 for the proper model
 Source: own elaboration

The conclusion of the changed position of Nash equilibrium is the appearance of equilibrium on the basis of Coase theorem adaptation in case of cooperation. This fact is a good adaptation of the Folk Theorem. Consequently, the adaptation to the governance Coase theorem allows us to assert that by accepted conditions the externality problem could be solved without community interference in the implementation of functions delegated to the higher level. The specific of the

² To construct these models, we use the above statistical data of 50 territorial communities. In the model, we include or exclude the variables provided by the condition of the Coase theorem. The appropriateness of co-operation is considered on the basis of model coverage. In the case of cooperation, we include the tools that determine the two groups, the lack of co-operation – only one or none.

Ukrainian case provides such equilibrium in the case of readiness PART_LL for cooperation at a time when readiness of PART_HL does not matter. So, the case of Ukraine introduces the significance of the citizens' desire to participate in governance on the local level.

5. Conclusions

The results of comparative analysis of the European experience related to self-governance, as well as the Ukrainian case on the basis of Coase theorem and Nash equilibrium let us to introduce the main concluded theses.

We proposed the following interpretation of the Coase theorem with the aim to analyze the interaction among local self-governance and state authority. If the ownership rights of the community and the state are clearly identified and fixed, the transaction costs for the protection of rights, their fixation and redistribution are zero or remain at an acceptable level, no matter what is the scale of the community, the problem of governance externality can be solved without local community involvement in the implementation of powers delegated to central authorities.

The experience of European states shows the possibility of applying the modification type of the Coase theorem to solve the problem of externality in the process of governance.

The results of the regression model clearly confirm the proposed model of the Coase theorem for interpretation of the interaction among local self-governance and state authority: if the local community has the rights to ownership, the problem of governance externality can be solved without local community involvement in the implementation of powers delegated to central authorities.

Adaptation of separate instruments of behavioral and institutional economics for application in Ukraine is based on the influence of scale effect, protection of the local communities' property rights and the acceptability of leaving homeland for permanent residence in another country for the need to participate in management at higher levels.

The results of the survey among several groups of respondents in Ukraine (engaged in self-governance officially, informally, as well as those who don't participate in its implementation) allow: to distinguish two groups by their priorities (with a focus on participation in higher / local level governance); to confirm the significance of interaction between higher and local level governance based on the Nash equilibrium and mechanisms of game theory; to test and to prove the proposed model of the Coase theorem in the case of local self-government and authority interaction.

Thus, the results of comprehensive analysis allow us to state that mechanisms of the institutional economy are relevant and appropriate for application in order to solve the problems of both local and public administration with the aim to ensure the normal functioning of the national society and markets of public goods.

Bibliography

- ARRUÑADA, B. (2016), Coase and the Departure from Property. In: Ménard, C./Bertrand, E. (eds.), *The Elgar Companion to Ronald H. Coase*. Cheltenham, 305-319.
- BEDNAREK, M./DMOCHOWSKA-DUDEK, K. (2016), NIMBY syndrome in rural areas of Poland: determinants and specificity of conflicts on the location of unwanted investments. Warsaw.
- BILOTKACH, V. (2006), A Tax Evasion – Bribery Game: Experimental Evidence from Ukraine. In: *The European Journal of Comparative Economics*. 3, 31-49.
- BLACKHURST, R. (2002), Cook: Britain is most centralized state in Europe. In: *The Guardians*, November 3.
- BOBER, J./HAUSNER, J./IZDEBSKI H. et. al. (2013), *Narastające dysfunkcje, zasadnicze dylematy, konieczne działania: raport o stanie samorządności terytorialnej w Polsce*. Kraków.
- CABALLERO G./SOTO-OÑATE D. (2016), Why transaction costs are so relevant in political governance? A new institutional survey. In: *Brazilian Journal of Political Economy*. 36/2. <http://dx.doi.org/10.1590/0101-31572016v36n02a05>.
- CASSIDY, J. (2013), Ronald Coase and the Misuse of Economics. In: *The New Yorker*, September 3.
- CEMR (2017), *Local and Regional Government in Europe. Structures and Competences*. Brussels.
- CHRISTENSEN, C./MCDONALD, R./ALTMAN, E. et al. (2016), *Disruptive Innovation: Intellectual History and Future Paths*. Harvard Business School. Working Paper 17-057.
- Council of Europe (2013), *Local and Regional democracy in Denmark. The Congress of Local and Regional Authorities. 25th Session*. Strasbourg.
- DOLISHNIYI, M. [= Долішній, М.] (2006), *Регіональна політика на рубежі XX – XXI століть: нові пріоритети*. Київ.
- HURNYAK, I./KORDONSKA, A. (2018), The “Taste of Life” as a Mechanism of Overcoming Corruption. In: *Comparative Economic Research. Central and Eastern Europe*. 21/2, 69-80. <https://doi.org/10.2478/ce-2018-0012>.
- HURNYAK, I./KORDONSKA, A. (2019), Analysis of Institutions Interaction in Ukrainian Economy by using Game Theory Models. In: *Przegląd Wschodnioeuropejski*. X/1, 139-152.
- KLYUI, V. [= Ключі, В.] (2015), Загроза Українській державності, In: *Сільські вісті*. 80/19275.
- KRAUJUTAITYTE, L./RIEKASIS, R./BURBULYTE-TSISKARISHVILI, G. (2014), Territorial decentralization in Lithuania: the missing continuum. In: *Socialiniai Tyrimai*. 1, 53-62.
- LADNER, A./KEUFFER, N./BALDERSHEIM, H. (2015), *Local Autonomy Index for European countries (1990-2014)*. Release 1.0. Brussels European Commission.
- MÉNARD, C./SHIRLEY, M.M. (2011), *The Contribution of Douglass North to New Institutional Economics*. Cambridge.
- NIKOLAIEVA, E./PLETNEV, D. (2016), The Role of the Transaction Costs in the Business Success of Small and Medium Sized Enterprises in Russia. In: *Social and Behavioral Sciences*. 221/7, 176-184.
- SEDMIHRADSKÁ, L. (2012), *Property tax in the Czech Republic and Slovakia since 1993*. Prague.
- SUMPIKOVA, M./BUSINA, F./GREGA, M. et al. (2016), *Transaction Costs in the Public Procurement: Selected Findings in Czech and Slovak Conditions*. Paper presented at the 10th International Days of Statistics and Economics. Prague. September 8-10, 2016.

- UNDERHILL, G. R. D. (2007), *Markets, Institutions, and Transaction Costs: the Endogeneity of Governance*. London.
- VINÍCIO WINK JUNIOR, M./HUA SHENG, H./EID JUNIOR, W. (2011), Transaction costs: an empirical analysis of their relationship with investment and foreign direct investment. In: *Revista de Administração de Empresas*. 51/2, 175-187. <https://doi.org/10.1590/S0034-75902011000200005>.
- WILSON, M. D. (2001), *The Coase Theorem and Opportunity Cost*. University of Canberra. Working Paper No. ABF01-01.