

Article

Agricultural land, governance, and institutional change: Evidence from a Bulgarian study

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Abstract: New Institutional Economics (NIE) uses solutions from law, economics and organization. The purpose of this article is to link in a single analytical approach the institutional environment, its change in the organizations uniting in one, what is happening in contracts with agricultural lands. The explanation of this type of governance means to integrate: theoretical definitions; formal rules (laws, court decisions and other legal acts); economic institutions—means and mechanisms of exchange; legal and economic forms in which, through governance of transactions property rights are transferred and protected. In order to achieve this goal, it is necessary to present the elements of the institutional matrix that are the cause of changes in subordination and coordination. Following the process of implementing an approach for reconciling the legal and economic nature of the contract forms and integrating the states, contract organizations and transaction costs in a common model. In order to solve the research problems tasks are adapted methods from law, economics, statistics. Such are: (a) positive legal analysis of legislation; (b) historical (retrospective) method of analysis of changes; (c) discrete-structural analysis to explain the process; (d) comparative-institutional analysis to clarify alternatives and an explanation of any of the effects; (e) regression analysis to model the relationships and present possible one's scenarios to show the direction in which changes are needed. Changes in legislation, legal forms, mechanisms and the amount of payments create new behavioral patterns that change the contract. Therefore, in retrospect, we are witnessing how the number of changes in legal acts, the amount of fees; the number of participants-administrators of the processes; the number and registers - change the number of transactions; the duration of the actions in the contracts, which ultimately predetermines the different amounts of transaction costs for agricultural lands. This interdependence was established by constructing an econometric model. The analysis presents opportunities for change that would lead to scenarios with a reduced level of transaction costs, that is, improving governance and showing the way to improve the institutional environment related to agricultural lands in Bulgaria.

Keywords: agricultural land; institutional change; governance; contracts; transaction costs

1. Introduction

The arrangement of the rules and the order of processes represent governance in organizations. On the other hand, the rules themselves are also subject to arrangement—the gradation by rank of the normative acts. At the same time, it should be mentioned that, apart from the standard subordination, both rules and organizations have an “imperceptible” at first glance interaction that passes through the abstract boundaries and forms of these same rules and organizations. This mix forms and imposes the structures of economic exchange, arranges physical and abstract connections, determines economic results. The latter makes some of the theoretical concepts dualistic, even more so the organizations and rules themselves evolve over

time. The effects of such a movement are also dualistic or at least difficult to predict, sometimes we say that the law or the organization has changed, but in fact the visible result of its action has changed, that is, the entire structure has changed, and when we mean institutional change, usually we encounter the change of the law or the disappearance of a custom, the new way in which the market, firms, contracts or at least their forms appear and which together realize or maximize the market or non-market effects (Coase, 1960). Agricultural land is a major factor of production; it is associated either with relations, processes, organizations and rules, in which food is produced as a final result, or with the category of property. It can be both an object of ownership and a resource on the occasion of what is happening in the organizations on the exchange of subjective rights. Subjective rights are the principled possibility of individuals to require certain behavior from other entities. They are the link between individuals, organizations, resources and some of the implications of the exchange. In practice, subjective rights are the legal basis in which the economic essence of property rights unfolds. That is, by itself it can form markets in which it is exchanged: sold or rented, but it can be part of secondary (quasi) markets in which actors acquire, exchange or protect rights related to it. That is, as an economic category, the analysis should also place those resources, efforts, actions that develop or “gravitate” around the agricultural land. Their uncertainty presupposes the existence of separate legal frameworks, actors that perform or act from within, helping and hindering certain effects - within these organizations. This presupposes an adaptation which, however, takes into account not only the smooth flow of “legal flows”, but also conditions different resources, accordingly it imposes new forms of organization that combine within themselves the forms of legal contracts and look for integrated effects on the occasion of expectations for determining individual or group (market) efficiency. These organizations have enormous impacts on fundamental (global) issues such as food security. This means that some micro-organizations are extremely important, and the way in which the methods of integration, subordination, coordination are carried out, in addition to the adjustment of the legal and economic systems, creates the connections, imposes the actions, and respectively makes the participants in the processes achieve or fail to achieve certain effects. This study is focused on the ways and methods by which governance is implemented between actors, organizations (firms), rules (markets), processes (contracts) as well as for those actions (transactions), including those with a legal form (deals and administrative acts, litigation-cases) on which this system depends.

The aim of this article is to create an approach to integration and assessment of governance in social relations evolving around agricultural land, which develop over a long-time frame, and from which a model of institutional change should be justified. This means that in the course of the research, some of the abstract concepts are transformed into synthetic indicators and the analysis integrates both some of the prerequisites and the effects of such a structure. The research goes through the following stages:

(1) Creation of a unified analytical framework, smoothing out the “contradictions” between the theories of economics, law, organization.

(2) Adaptation of methodological means, in which the legal framework fits to the economic and organizational methodology, including by describing the parts of the institutional matrix in a synthetic form.

(3) Analysis through the study of individual structures, which are subsequently considered in integrated form.

(4) Modeling processes with binding to changes in the environment.

(5) Creating short scenarios for improvements in some of the parts of the institutional matrix.

Through the NIE, a practical way to solve problems with agricultural land, related rules and organizations should be established.

2. “Fitting” of the theoretical frameworks

Traditionally, agricultural land has been analyzed as a type of property, or as a system of market relations in which land is a factor of production. In more recent studies, agricultural land is an important tool for solving problems of food and environmental security (FAO, 2006). Access to property rights, the concentration and fragmentation of ownership, the transfer of subjective rights (land mobility) are the basis of the studies done by Hartvigsen (2014a, 2014b), Kay, Peuch and Franco (2015), Korthals Altes (2022). Researchers such as Alchian and Demsetz (1972, p.15), Demsetz (1967, p.347), and Alchian (1969, p.197) find that the subjective rights existing in relation to the power by which resources are distributed are the individual means by which a given good is acquired. Monissen and Pejovich (1977, p.283–284) argue that through property rights, individuals optimize their utility function.

Legal science finds that “effectiveness” is the concrete procedural possibility to protect or realize a subjective right. This means that rights must be guaranteed through procedural means, and the means by which positive effects related to production from agricultural lands are achieved, to be carried out at high levels of “orderliness” of legal acts (Dudás, 2022; Szilágyi, Raisz and Kocsis, 2017). On the other hand, the meaning of having “protection” implies a possible conflict of one’s interests and the “legality” of the processes taking place. This means that the analytical concept should build integration between the behavioral essence of rights and the mechanisms through which agricultural land is exchanged, and at the same time, society receives new, more profitable economic opportunities. That is, in addition to the subjective rights, the mechanisms of interaction must also be “correct” and must be felt by those who participate, by those who support the organizations, and by other members of society, although sometimes they are not directly affected by the effects of what is happening. The effect can easily be defined as an expense.

The term “institute” in law represents: the smallest set of legal norms within the hierarchy of the normative existence of law. When you look at “property”, it becomes clear that the institutes are a certain synthesis of powers that determine: the possession, the disposal, the acquisition of property. This dualism has been carried over into economics theory, through the discussion of the nature of “institutions” and the role of “organizations” through which individuals, firms, and markets exert their effects simultaneously. North (1990, p.3) considers that institutions are: constitution, laws, social norms, constraints. Through them we can reduce uncertainty. However, the

author is of the opinion (*ibid*: 5) that economic organization is something separate, determined by individuals and their actions. Williamson (1985, p.15) explains that the contract is probably the most important institution because it is through it that economic exchange takes place. The contract shapes into a whole, the different levels of the social architecture and helps the subordination and coordination between the participants in the social processes (Williamson, 1998, p.26). On the other hand, Klein (2000, p.458) says that a distinction should be made between institutional environment and “institutional arrangements”.

Williamson (1991, p.280; 1996, p.104) uses the standard legal forms familiar from contract law to explain the organization’s integration and business goals. His perspective, in a sense, makes the organization of exchange unbounded in time-continuous, technology-like, if highly inhomogeneous, process. The contract, in addition to classical, neoclassical, is also relational and serves as a framework for economizing any behavior (Masten, 1999; Williamson, 1979, p.236–238). That is, the contract is both an institution and an organization.

Property rights exchange, however, may take place without a contract. Then an analytical framework should link, in addition to contracts, the non-contractual mechanisms that protect individual interests (Williamson, 1996, p.223). The latter may even be opportunistic (Williamson, 1985, p.32). That is, the bilateral nature of the organization (Williamson, 1996, p.142) should unite the analysis of both individual and group mechanisms, as well as of vertical and horizontal connections, as well as the institutions that determine them (*ibid*: 379). Governance structure (GS) is a phenomenon combining different, sometimes overlapping forms of “markets, hybrids, hierarchies” (*ibid*: 14) with not always clear, defined outside of legal forms, boundaries of the organization (*ibid*: 105). An analytical framework based on GS should serve as a kind of coordinating and subordinating principle through which, in addition to firms, contracts, markets are woven into one and the system of legal acts, as well as the process of factual and technological actions. Ménard (2013a; 2013b) describes the existing mix in the organization as a hybrid. Contractual forms are seen rather as a kind of social process of assignment of rights (“franchise” according to Rubin, 1978) and a means of common use of resources. According to Ménard et al., (2014: 262) due to the unification of process approaches in the analysis of contracts, they have acquired to a certain extent—a technological sense. Agricultural land contracts should be considered hybrid.

The relationships within organizations operating regarding natural resources, especially agricultural land, and the potential substitution among participants as a means of managing conflicts, vertical integration, and addressing issues such as degradation, are explored by Debonne et al. (2021). The principal-agent problems in agriculture differ from those in other industries. Sikor et al. (2013) examine farmers’ relationships with the administration concerning the protection of certain social ties in the context of land property rights. In other cases, we observe better governance through a balance between the ecological and economic goals of the participants in the processes (Liao et al.). Motives for long-term investments and acquiring agricultural land may involve indirect, even political goals (Nolte et al., 2016). It’s not only the methods of resource utilization that are important but also the comprehensive, long-term attitude toward this resource, i.e., the guarantees for the sustainability of the

system. Harrigan (1986), Robertson and Gatignon (1998) are authors who work in the scientific field of collaborative resource sharing and management. Common property can be observed in producer associations, as well as with those that manage common commercial rights that do not always derive directly from agricultural land (Dwyer and Oh, 1988; Sauvé, 1998; 2000). Cheung (1969b) analyzed agricultural land contracts through economic rents. Stiglitz (1974) studied quasi-contracts where sharecropping occurred, and Allen and Lueck (1992b) through agricultural land explain the specificity of assets in agriculture. Association and firm cooperation described by Alchian (1978), Ouchi (1980), Eccles (1981) Cheung (1983) can be seen in the joint provision of coordination of property management actions by major players in the agricultural land market.

Transaction cost economics (TCE) poses the question of improving economic systems through the measurement of transaction costs (Sykuta, 2010). Connecting the effects of market regulations, as highlighted by Alger and Toman (1990), forms the basis for better governance. On the other hand, the choice of contract design is influenced by the level of transaction costs (Allen and Lueck, 1992a; 1993; Cheung, 1969a). Assessing alternative transaction cost arrangements allows for the exploration of approaches to merge contractual and corporate organizations, and in agriculture, to seek integration between agricultural companies and family farms (Allen and Lueck, 1996; 1998; 2000; Allen & Phillips, 2000).

Arrangements blend the technological and physical interface of the environment, that is, the digital and physical actions (Balakrishnan & Wernerfelt, 1986). This means that the “quasi” organizations existing on the occasion of the protection of rights, in which: documents are extracted, actions are carried out through the register systems of rights; actions to obtain information from different sources are coordinated, are essential for the governance of agricultural land (Gabre-Madhin, 2001). Governance means, that in addition to the prerequisites, the effects are coordinated as well. “Agricultural land” contracts should successfully combine the contractual and procedural nature of the rules, in the protection of the subjective property rights with consideration of the social effects, and this is done with the lowest possible costs.

The idea of researching the relationship between governance of agricultural land and institutional change is suggested by Borrás and Franco (2010), but their analysis emphasizes the success of the agrarian reforms and the consequent change in social relations, as well as the corresponding political trajectories. In the present study, the competition between institutions should be perceived as interaction or opposition between alternatives, including in the company and contract organization (Cheung, 1983, 1986, 1969a). According to Ostrom (1990) the small organizational structures, from the low levels of the social pyramid, carry out the governance of resources (in our case, in the contracts with the agricultural land), from which to start the institutional change.

3. Materials and methods

The analytical framework of the study. The analytical framework is an abstract tracing of the sequence and cause-and-effect relationships of research. In the graphical representation depicted in **Figure 1**, six rectangles (panels) are visually presented.

In the study by Zhang et al. (2021), the relationship between the institutional environment and organizational architecture is demonstrated. Modeling the contractual structure of the organization by measuring transaction costs is done by Masten (1988). The study analyzes both types of relationships: (a) formal institutions and contractual forms; (b) between contractual forms and transaction costs. See also Guerriero (2023).

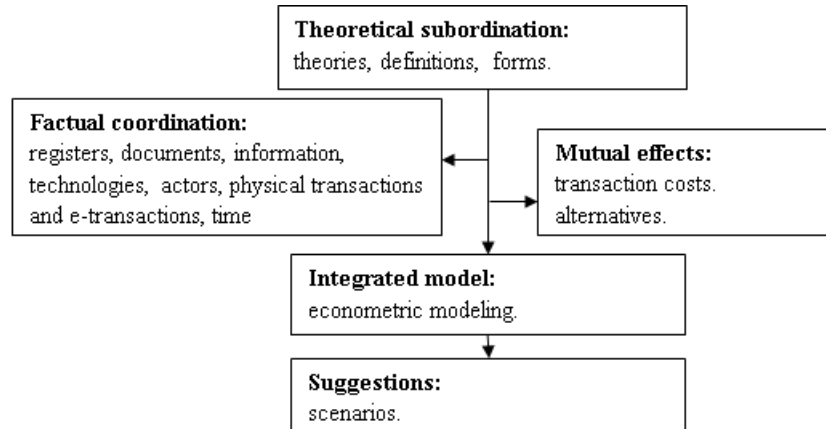


Figure 1. Analytical framework.

Methods. Bachev (2010a; 2010b 2018a; 2018b); Bachev and Terziev (2018) propose a variety of methodologies for the study of coordination. In this way, not only the interaction between the legal and institutional environment is clarified, but also the possible collisions that are initially set by the institutions.

The methods should be divided into legal, economic and combined. Discrete structural analysis (DSA) serves to evaluate the “fragments” of: institutions, actors, types of contractual forms and behavior based on transactions (Williamson, 1979). DSA determines the logic of what is happening in institutions and organizations, allows analysis of the decomposed matrix of social relations in a synthetic form, and unites prerequisites and effects of the system (Williamson, 1996).

Lexical, logical methods. They set up, except interpretation of definitions and analysis of “mistakes”, combine the “contradictions” between the legal and economic theory. The historical analyzes in law are combined with retrospective economic analysis, which traces the development of the legal environment and some of the effects of institutional change. This combination helps to understand the governance of agricultural lands in their temporal perspective.

Graphical, comparative methods. They allow for comparing certain governance effects.

Analysis of the interaction (presented in graphic form): through it, institutions, legal forms, legal bases are bound together, and contracts are analyzed as a single structure.

Identification of main variables: NADM—number of actors/number; NTP—transactions of “physical” type/number; TOTNTR—total transactions in the contract/number. TOTHOU—duration of the contract/hour; TOTTRC—total transaction costs/Euros. It should be clarified that transactions, which represent the

smallest acts of individuals, not only serve as a form of disaggregating their behavior but also transform it into specific real units of analysis. These include:

(a) In physical transactions—the specific actions and inactions related to movement and waiting in front of the offices of other participants (actors) in the same organization. Documents are not included in these actions.

(b) In electronic transactions, we analyze micro-acts related to communication, payment, or other actions carried out through a digital platform.

Measuring transaction costs. In the measurement, their objective, (market) essence and their subjective, (sometimes—non-market) part are “mixed”. The approach was proposed by Benham and Benham (2000, 2001); Benham et.al (2004), Wang (2003) and adapted for agricultural contracts by Georgiev and Roycheva (2017).

Econometric analysis. The interactions of the structure are analyzed. The relationship institutional impact-transaction costs are modeled.

$$Y = \sum_{i=0}^n f(x_1; x_2; \dots x_n) \quad (1)$$

where, x_1, x_2, \dots, x_n are determining factors for GS, and y —the result of their impact measured as effect (TrC). The constructed econometric model is a multiple linear regression of the form:

$$y_i = \beta_0 + \beta_1 x_{i,1} + \beta_2 x_{i,2} + \dots + \beta_k x_{i,k} + \epsilon_i \quad (2)$$

We use x_k —number of factor variables, y — outcome variable, “ k ” for the number of predictor variables, which means we have $(k + 1)$ regression parameters and $\beta_0, \beta_1, \beta_k$ —linear coefficients.

Sources of information. Empirical research of 110 processes in lands throughout the country, which we can divide into 43 sales, 37 leases, 25 other legal forms (market and non-market contracts); 5 legal disputes related to agricultural land. In order to ensure that agricultural land contracts are comparable, the costs of legal disputes were measured up to one year after the start of the dispute. This allows for making the analysis of contracts in a legal historical and retrospective framework. The primary information was collected using a random sampling method after conducting semi-structured interviews in processes conducted before the Ministry of Agriculture and Forestry, the Agency for Registration, as well as transactions proposed by the Notary Chamber of Bulgaria and the Courts of Bulgaria. And information about legal acts was obtained through the legal information system lex.bg.

4. Results and discussion

4.1. Governance and uncertainty of agricultural land

The subordination between theoretical concepts, formal rules, contracts and forms should improve the uncertainty of the institutional environment, which would have a positive impact on the governance of agricultural lands.

The hierarchical relationship depicted in **Figure 2** showcases the subordination among various formal institutions. These include those representing laws and by-laws, institutions embodying contractual forms as per legal theory, entities addressing legal disputes concerning diverse property rights protections (court decisions), establishments providing interpretative rulings based on pronouncements by the Constitutional Court and acts of the Supreme Courts within the institutional

Gathering of evidence: Notary deed; Decision of the Commission under Art. 14, LOUAL, 1990; collateral evidence; Second: Submitting of Legal claim in Court together with the evidence gathered, Request for expert opinion, Payment of state fee. Gathering of other evidence. Registration of the Claim; Third. Answer by the Defendant (Art. 131, CPC, 2008)—presentation of evidence, raising objections, and counterclaims, payment of fees. Fourth. Presentation of written expert opinions and statements in the process; Fifth. Hearing of witnesses. Sixth. Decision of Court; Seventh: Eventual appeal. Presentation of new evidence; Eight. Answer of the appeal claim. Presentation of new evidence; Nine. The final decision of the Court; Ten. Registration of the decision. [Cassation court instance (SCC)].

Which is equal to \sum from the interaction between the legal bases and the necessary documents for the contract to happen, and

$$GS\ agri -\ lend\ \sum = (C1) + (C2) + \dots (Cn) \quad (4)$$

4.2. Governance and asset specificity of the agricultural land

Better governance is due to that interrelationship that takes place in transactions, times, administrative actors. Within the context of the discussion, **Figure 3** visually represents a measurement of the number of transactions and the time necessary for their execution per unit area.

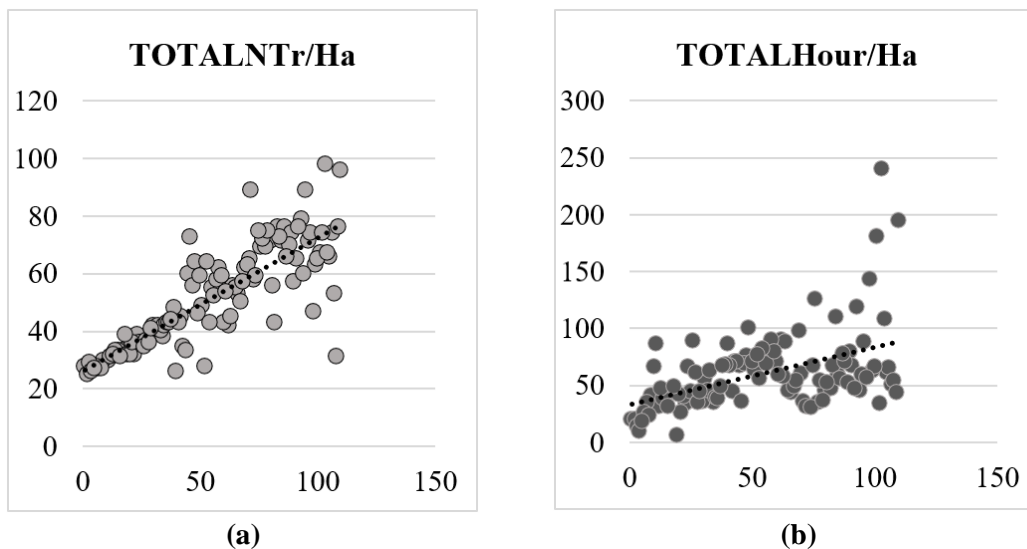


Figure 3. (a) Number of transactions per unit area; (b) duration of transactions per unit area.

Note: measurements are for agricultural land worth up to 150 Ha.

Source: own research.

With the increase in the size of the property, its price (rent) goes up, from which: the total number of transactions; the total duration of the contract increases. The number of participants mediating the process is also increasing. This means that even when some of the rights holders (for example, a land buyer) is able to make “organizational economies of scale”—the overall costs of the contract will not decrease. The same is observed with the duration of the contracts. This means that governance determined by the duration of the contract should be examined together with the transactions performed, and the analysis should explain why the time and number of transactions in a contract increase.

Within the research context, the graphical representation in **Figure 4** depicts the measurement of physical transactions and e-transactions against their execution time. The expectation is that e-transactions, facilitated digitally, should require less time for completion compared to traditional physical transactions, often involving tangible documents and actions.

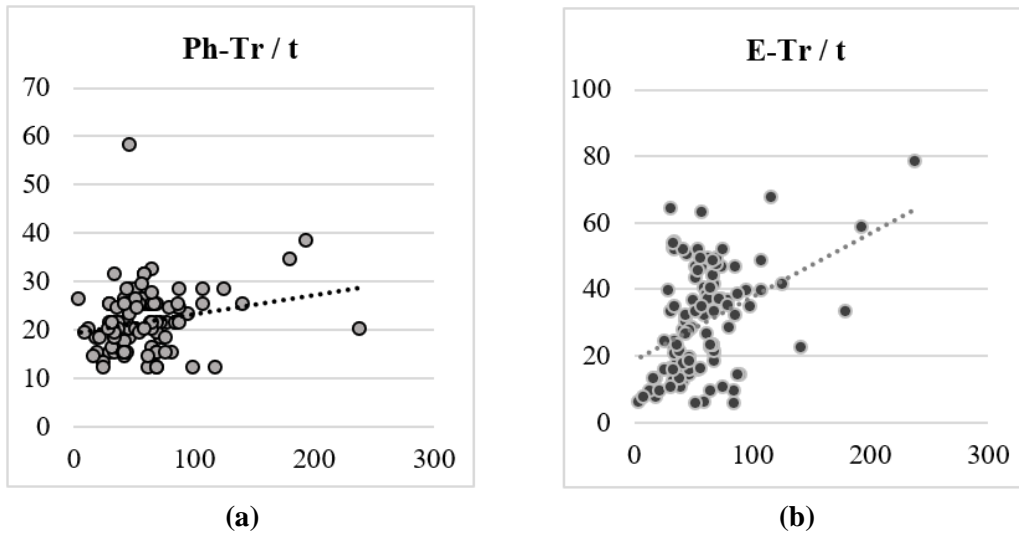


Figure 4. (a) Time for physical transactions; (b) time for e-transactions.

Note: transactions are represented on the abscissa (no.), and time on the ordinate (hours).
Source: own research.

When we look at them together, we see that electronic transactions are more common for smaller properties. For properties that are over 5Ha, physical transactions prevail. This means that even big-scale deals (deals with higher prices and larger property size) do not experience a high degree of technical substitution. That is, there are no incentives to replace physical transactions with electronic transactions.

Within the study’s framework, the graphical depiction in **Figure 5** presents a measurement of physical-type transactions and e-transactions against the number of actor-administrators involved in a contract. The comparison aims to elucidate any differences in transaction dynamics based on the involvement of administrators in the contractual process.

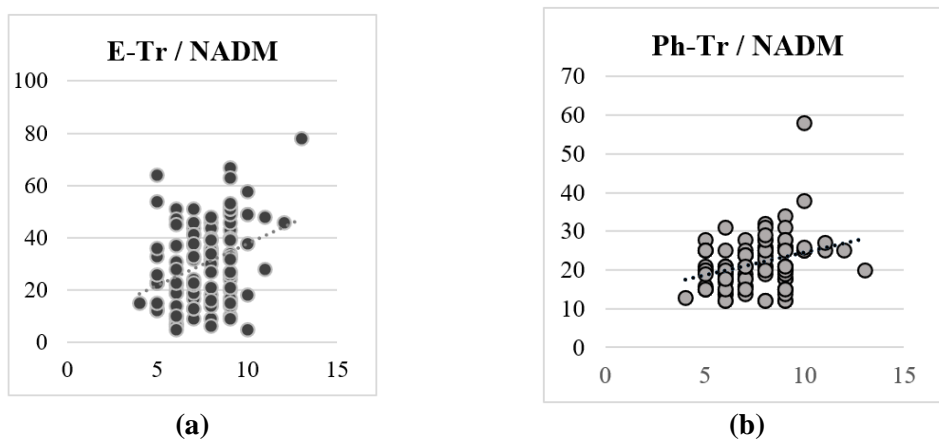


Figure 5. (a) Transactions; (b) actors administrators.

Administrative actors are all those who serve the process of transfer, protection of rights from agricultural lands including: Lawyers, Notaries, Court(s), Registry Agency, Cadastre Agency, Local Tax Offices, Office for civil status, Office for agriculture and forests, Mayors, Regional Governors, Banks, Information intermediaries (real estate brokers), etc. When reviewing the relationship between transactions and actors, it becomes clear that e-transactions are more than those of physical type, that is, they are used more often when interacting with administrative actors. This is logical because electronic connections are cheaper compared to the alternative of going to the location where an arbitrary administrative actor is. At the same time, it is striking that physical transactions are carried out even when there is an electronic alternative, as with some of the documents.

When comparing the variables TotalNTr and TotalHour, it is assumed that they are factors with greater weight compared to NADM. That is, the improvement of governance on the basis of reducing the number of transactions and their corresponding duration, would lead to a better effect more than reducing the number of administrative actors in the contracts aimed at the transfer and protection of agricultural land rights.

4.3. Institutional change and agricultural land

This part traces the trajectories of the institutional impact and the trajectories of some of the effects. In practice, governance is presented as a comparison in different periods: institutions; mechanisms; and transaction costs; and their changes.

In the analysis conducted, **Figure 6** delineates five zones pertaining to changes in legal acts associated with agricultural lands. The number of alterations exhibits significant volatility, with distinct peaks often correlating with political circumstances. Zone 1 denotes the period predating the country's accession to the EU, while Zone 2 signifies the immediate aftermath of accession. In Zone 3, the introduction of agricultural land management companies and consolidation of ownership procedures is observed. Lastly, Zone 4 illustrates endeavors to harmonize legislation with that of the EU. In zone 5 there are the changes that occurred during the project to introduce a new "Code for Agricultural Lands", which unifies the legislation on this topic; the measures during the Covid-19 crisis; and those from the time of the "plans for recovery" and the legislation related to the "green transition".

Around 2007, the legislator made intensive changes to the normative acts, related to the political goal – the acceptance of the country into the EU. After 2014, the moratorium on the acquisition of agricultural land by foreign citizens expired, and a year later marked the beginning of a procedure by the European Commission related to the violation of the Union law. All this leads to an attempt to change the legal framework and a new peak of changes related to the legislation related to agricultural lands in the country. In 2020, these changes seem to be slowing down, considering that the socio-economic crisis related to Covid-19 is the reason for the reduced number of changes. In the last year, there has been a new increase in the number of institutional changes, measured as the amount of changed laws resulting from the new measures related to the introduction of environmental legislation known as "green transition" in agriculture and the absorption of EU funds under the recovery plan.

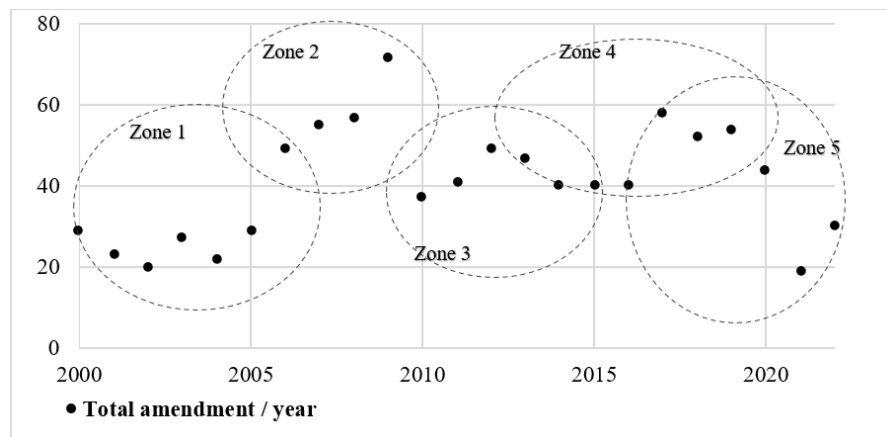


Figure 6. Number of Changes, affecting the legislation of the agricultural land (2007–2021)/N.

Source: own research.

Neither the increase nor the decrease in legal changes can be accounted for as management of governance “errors” in agricultural land contracts. It is possible that the multiple changes of the legal environment to rather confuse the actors.

4.4. Institutional change, agricultural land and “extinction” in governance: tariffs, taxes, fees, actors, registries, documents

Describing the findings, **Figure 7** illustrates the alterations in local taxes, lawyer’s fees, notary fees, and fees for recording circumstances related to ownership in contracts involving agricultural lands. The fluctuations in tariffs are documented, with the average price of agricultural land in the respective year serving as the “material interest” for fee calculation purposes. Notably, when zones “overlap” multiple tariffs undergo modification simultaneously. The change is always in the direction of an increase in the amount of the relevant tax and fee. In zone 1, the increase in notary fees and VAT registration of most notaries is taken into account. In zone 2, a serious change in attorney’s fees is noted. In zone 3, there is an increase of local taxes, in some settlements up to 100% during certain periods. In some of the years analysed, the costs of legal services “exit” from the area of the usual effect imposed by the rates before that. In zone 4, the “postponement” resulting from the Covid-19 crisis is reported. In this period, there is no lowering in the size of taxes, fees and royalties, only deferral of payments.

With the increase in the price of agricultural land, the fees paid for the relevant actions of the administrative actors, intermediaries, will also go up. The highest will be lawyers’ fees. Logically, if fewer lawyers are involved in the process, this would lead to contracts with lower total fees. On the other hand, lawyers participate mandatory when there is a legal dispute, that is, the reduction is possible with governance, which leads to a reduction in the number of legal disputes. Although alternative tariffs for e-payments were introduced at the beginning of the research period, it can be considered that each new alternative rather increases the amount of “burden” in the contracts. Tariffs in agricultural land contracts can be seen as an incentive to transfer costs between the actors who carry the specific land rights. That is, some buyers, tenants, may try to make the owners or users of the property to

perform certain actions (transactions), for example to take out documents at their own expense, justifying themselves with the high fees they pay when confessing the transactions before a notary or payment of local taxes.

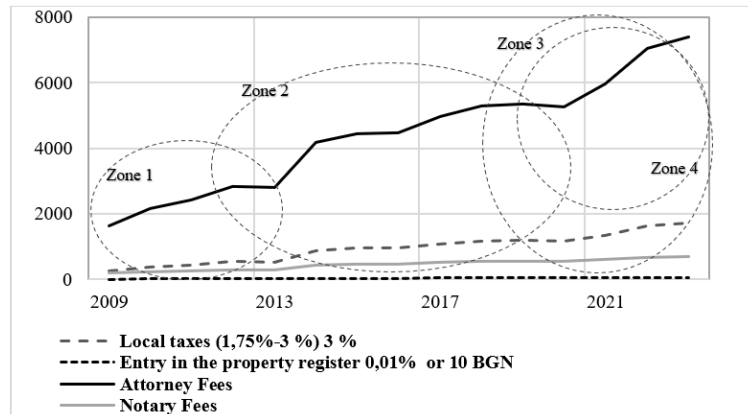


Figure 7. Tariffs, fees, and taxes for agricultural lands (2010–2020)/BGN.

Note: 1BGN ≈ 0.51 Euro

Source: own research.

In the examination conducted, **Figure 8** outlines the average number of administrative actors, documents, and registers utilized in agricultural land contracts over the analyzed period. Notably, Zone 1 reflects a notable surge in the number of documents employed. Meanwhile, Zone 2 witnesses the introduction of new registers alongside an uptick in the involvement of administrative participants in processes related to agricultural lands. In zone 3, the effect of the change resulting from the attempted integration of the registers and the e-form of the documents is observed. In the “overlap” zones, an increase of at least 2 units of the corresponding indicator was observed, that is, the number of administrator actors, documents, and the number of new registers increased.

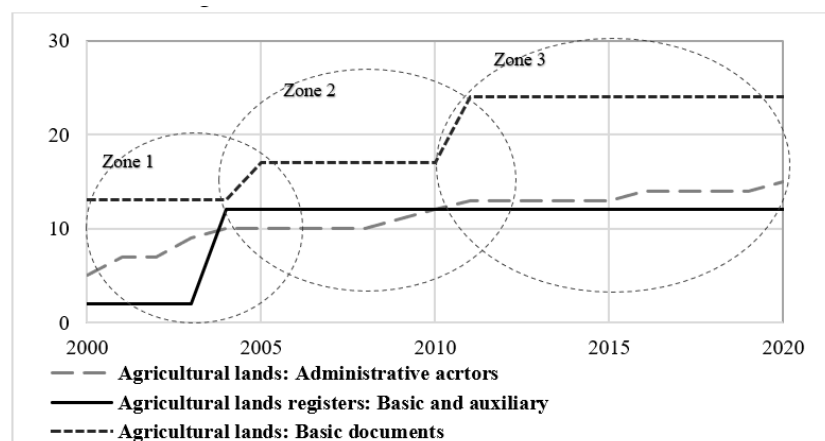


Figure 8. Actors, registries, documents in the agricultural land contracts (2000–2020)/N.

Source: own research.

The problems were solved by “inserting” a new administrator actor into the process, and because of the necessary specialization of the work of these new actors, it came to the use of new types of documents. Procedural economy (combining two or

more documents into one) was not observed in the studied period. The registries coordinated the information about the status of the actors and their property rights, but did not coordinate their actions. The necessary transactions were pulled through each register separately, meaning that technical replacement was rarely done. Paper documents have been preferred over electronic ones, the main reason being the lack of integration between registries. This probably created incentives to increase spending.

4.5. Institutional change, agricultural land and governance effects: transaction costs

Examining the data presented in **Figure 9**, the trend in transaction costs for agricultural land contracts reveals a consistent growth over the years. Zone 1 marks the onset of technological replacement, contributing to the initial increase in transaction costs. Subsequently, the introduction of new electronic formats for certain contract actions necessitates the implementation of new coordination mechanisms, characterized by high initial costs. These initial costs can be perceived as investments in enhancing transaction efficiency. The initial costs can be considered as investment. This increases individual efficiency, but only for a small proportion of actors. In zone 2, the changes are due to a redefinition of the organizations for the transfer of property rights. Already at the beginning of this period, contracts become relational and dependent, because they depend on matching the interests of more and more actors - administrators. In zone 3, the effects of the crisis and the effects of concentration merge. There is an increase in the prices of agricultural land. This leads to the use of new types of documents, as well as to the “transfer” of part of the cost burden from some actors to the other actors in the contract. The problem affects to a greater extent the smaller actors, who are usually small producers or small landowners living in the settlements where the properties are located. The overlap of the zones shows that during these periods, the increase in the total amount of transaction costs in the contracts is no less than 5%.

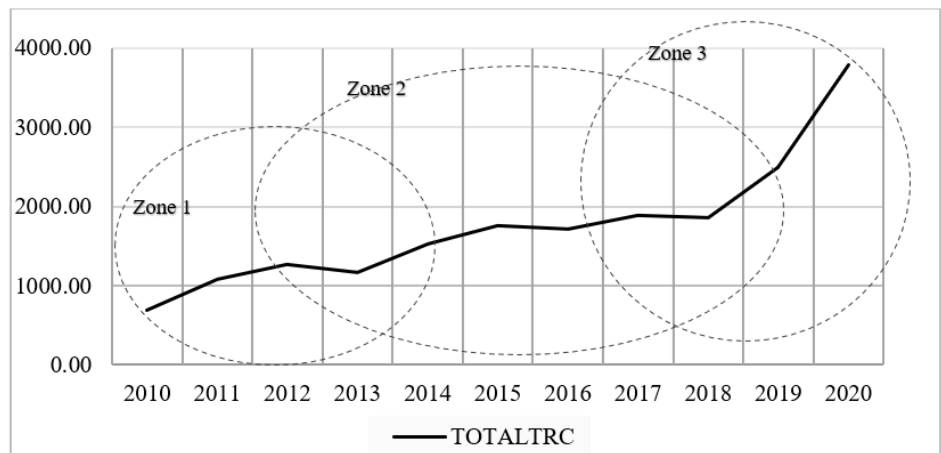


Figure 9. Transaction costs in agricultural land contracts (2010–2020)/Euro. Source: own research.

We can conclude that several important facts change governance and from there lead to increased transaction costs: the changes in the notary fees for 2009; the changes

in the digital formats and discounts for conducting digital transactions, which began in 2010, have not led to a decrease in the amount of transaction costs. After 2013, labor costs increased, but this did not lead to an increase in the supply of the asset (agricultural land is initially a limited resource), which caused an increase in land prices and, from there, an increase in transaction costs. The costs related to the participation of lawyers after 2016 have been sharply increased. This, in effect, offsets the price discounts provided to actors in cases of using digital transactions. The main increase after 2019 is due to a sharp increase in the tariffs with which agricultural land contracts are subject to local taxes and fees.

5. Model of institutional change and governance effects on agricultural land

When compiling an integrated model that can be used to improve governance, synthetic variables were used:

- NADM is an effect variable on the outcome variable TOTTRC;
- NTP is an effect variable on the outcome variable TOTTRC;
- TOTNTR is an effect variable on the outcome variable TOTTRC;
- TOTHOU is an effect variable on the outcome variable TOTTRC;
- TOTTRC is an outcome variable.

When we substitute in the model we get:

$$TOTTRC = NADMx_1 + NTPx_2 + TOTHOUx_3 + TOTHOUx_4 + \epsilon \quad (5)$$

Table 1. Analysis of panel regression.

| <i>Regression Statistics</i> | | | | | |
|------------------------------|-------------|-----------------|-----------------|-------------------|--------------------|
| Multiple R | | | | | 0.8291 |
| R Square | | | | | 0.6874 |
| Adjusted R Square | | | | | 0.6755 |
| Standard Error | | | | | 523.8871 |
| Observations | | | | | 110 |
| ANOVA | df | SS | MS | F (4, 104) | Prob > F |
| Regression | 4 | 63,366,569.2879 | 15,841,642.3220 | 57.7198 | 0.0000 |
| Residual | 105 | 288,180,611,004 | 274,457.7248 | | |
| Total | 109 | 921,846,303,883 | | | |
| | Coef | | Std err | t | P > α |
| Interception | -574.5179 * | | 243.1499 | -2.3628 | 0.0200 |
| NADM | 90.6191** | | 32.9956 | 2.7464 | 0.0071 |
| NTP | -98.5752** | | 29.3073 | -3.3635 | 0.0011 |
| TOTAL NO | 107.7451** | | 26.8136 | 4.0183 | 0.0001 |
| TOTAL HOURS | 12.3732** | | 1.6676 | 7.4198 | 0.0000 |

* significance level $\alpha = 0.05$; ** significance level $\alpha = 0.01$.
Source: own research.

The regression statistics and ANOVA results presented in **Table 1** reveal crucial insights into the model of agricultural land contracts and its associated variables. With a coefficient of determination $R^2 = 0.6874$ and a criterion $F = 57.7198$, the t -statistics for the coefficients within the model indicate that the variables effectively account for the variation in transaction costs within agricultural land contracts. These findings suggest that the model is both adequate and statistically significant in explaining the dynamics of transaction costs in this context. When the number of administrative actors is changed by 1, the transaction costs increase by 90.62 Euros. It is self-explanatory that the existing administrators are raising the costs. With the insertion of a lawyer, notary, etc. in the process transaction costs usually increase.

If the number of physical transactions is changed by 1, the transaction costs should decrease by 98.58 Euros. This link is reversed. This means that if too many of the transactions take place in a physical way or with paper documents. On the other hand, the owners of property rights who conclude (participate in contracts) have no motivation to rely on e-transactions, for example, because of high additional costs (electronic signature, availability of a bank account, etc.). That is, e-transactions are expensive. At the same time, the use of institutional intermediaries (administrative actors) is accompanied by “absorption of part of the value” - the prices of their services increase, transactional ones also go up.

If the process time is changed by 1 hour, the transaction costs should be increased by 12.37 Euros. Since it represents a sum of the physical transactions related to moving around and waiting in queues for the issuance of certain documents, we consider that the justified weight for this increase is the period for which the actors—holders of rights, travel certain distances. The offices of the cadastre agency, property registry, courts are located only in the big cities. The agriculture and forestry offices, the offices of local taxes and fees, from which documents can be obtained, are found only in the municipal centers. In the smallest settlements there are none, which is the reason for the increase in transaction costs.

6. Discussion

Legislation “uses” an increasing amount of legal provisions and new types of legal acts to convince us that the change being made will have a positive effect, but rather creates problems in the adaptation of actors in agricultural land contracts. The governance of legal acts, forms and procedural actions should influence individual economic efficiency. In the event that through the rules a reduction of barriers and the duration of the process is achieved, the legal subjects themselves, who are the analyzed institutional actors, would more easily achieve their economic goals. That is, the well-judged governance leads to legal and economic efficiency. We should also measure improvement in the overall market efficiency. However, the opposite is not always true. When working individually, on legal efficiency or only on individual economic efficiency governance may not improve.

Decisions leading to the unification of institutional actor types should not lead to difficulty in the protection of individual rights, especially if this protection is linked to the payment of a certain price. Otherwise, there will be actors who will look for ways not to reduce the prices of services offered or to transfer costs between actors. The

identification of new markets, for example, those related to the provision of services by actor-administrators, should be reconsidered.

The technical replacement must be carefully analyzed, and e-transactions can replace physical transactions, only after analysis of the alternatives and evidence of reduction of the total transaction costs in the contracts.

Such an analysis should model the scenarios of how to effect institutional change. At the same time, Institutional impact and those of Transaction cost economics (TCE) should be analyzed and applied jointly. An integrated use of the concepts, both in law and economics, and those arising from the NIE is needed.

Combining legal and economic objectives, as well as technological-organizational coordination, should create conditions for synergistic effects, justifying the direction for improving economic systems (Libecap, 1986; Smith, 2002; Deininger and Feder, 2009).

7. Conclusion

Proposals for improving governance of the institutional matrix:

Governance of rules and contractual forms. Integration should be carried out by reducing the number of legal inconsistencies, respectively by simplifying the contract forms, even by reducing the number of types of contracts, which would lead to a reduction in legal disputes regarding agricultural lands. Reducing the “fusion” of legal forms for agricultural land will improve governance.

Governance of tariffs and removal of deadlines. Unification of tariffs, reduction of the number of different tariffs, depending on the deadlines for receiving documents. In the tariff for notaries and notarial activity, a stepped scale is applied, five levels/five scales of determining the price/tax value of the service. The same can be reduced to a smaller number of scales/levels and number of tariffs.

In the tariffs of municipalities, there are three types of fees for issuing a tax assessment certificate. The documents are issued and provided to the institutional actors, for different duration of the service period. This introduces different prices for these services. It would follow: express service—the document is received immediately; fast service—up to a week; the ordinary service—up to 1 month. These should all merge, leaving only one tariff. All this would reduce the terms and duration of the processes. There is no good reason why the documents should not be released immediately, upon request by institutional actors.

Governance of mechanisms, replaceability of transactions, replacement of actors with similar functions. Integration between the Cadastre and the Property Registry can lead to hybrids, both in the issuance of documents, and establish a union of actors with similar functions. This will effectively eliminate some of the duplicated features. It is also possible to approach it in the opposite way, creating a higher level of competitiveness. For example, some legal actions, such as those of lawyers and notaries: notarization documents, lawyer consultations, can be done competitively, provided that the tariffs are removed, but after their removal, a reduction in the prices of this service is achieved. A similar approach can be applied to some of the activities that are in the form of an electronic service. For example, lawyers and notaries who

have an electronic signature can request the issuance of documents from the Property Registry-alternatively-on a competitive basis-at competitive service prices.

Governance of documents, reducing the number of transactions. Which means the issuing of common documents by the administrative actors. For example, the Cadastre Agency and the Registration Agency, which serves the property registry, can issue a common document that includes the current notarial deed and the sketch of the property.

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Appendix

Table A1. Charts for acronym and full name usage.

| Abbreviation | Full name of the normative act, court decisions, and others. |
|---------------------|---|
| | <i>Lows; Regulations; Tariffs; Regulations; Rules; Taxes; Taxis; Fees</i> |
| OA, 1951 | Property Act (OA, 1951) |
| LOUAL, 1991 | Law on the Ownership and Use of Agricultural Lands (LOUAL, 1991) |
| LTL, 1995 | Law on Tenancy in Agriculture (LTL, 1995) |
| SPL, 1996 | State Property Act (SPL, 1996) |
| MPA, 1996 | Municipal Property Act (MPA, 1996) |
| IA, 1949 | Succession Act (IA, 1949) |
| LPAL, 1996 | Law for the Protection of Agricultural Lands (LAPA, 1996) |
| LCPR, 2000 | Law on the Cadastre and Property Register (LCPA, 2000) |
| LLTF, 1997 | Local Taxes and Fees Act (LTA, 1997) |
| LOC, 1950 | Law of Obligations and Contracts (LOC, 1950) |
| NNAA, 1997 | Law on Notaries and Law on Notarial Activity (NNAD, 1997) |
| APC, 2006 | Administrative Procedure Code (APC, 2006) |
| LNA, 1973 | Law on Normative Acts (LNA, 1973) |
| SPC, 2007 | Code of Civil Procedure (CPC, 2007) |
| LSIPC, 2021 | Law on Special Investment Purpose Companies (LSIPC, 2021) |
| ECL, 2007 | Electronic Communications Act (ECL, 2007) |
| RE, 1951 | Rules of Entries (RE, 1951) |
| RILPAL, 2019 | Regulations for the Implementation of the Law on the Protection of Agricultural Lands (RILPAL, 2019) |
| RILPAL, 1996 | Regulations for the Implementation of the Law on the Protection of Agricultural Lands (RILPAL, 1996) |
| RILMP, 1991 | Regulations for the implementation of the Law on Municipal Property (RILMP, 1991) |
| RILOUAL, 1991 | Regulations for the Implementation of the Law on the Ownership and Use of Agricultural Lands (RILOUAL, 1991) |
| REG: ZBPPMN, 2012 | Regulations for the implementation of the Law on State Property (RILSP) Ordinance No. 19 of October 25, 2012 on development and development of agricultural lands without changing their purpose (REG: ZBPPMN, 2012) |
| REG: 49MRP, 2004 | Ordinance No. 49 of November 5, 2004 regarding the maintenance of the map of the presented property (REG: 49MRP, 2004) |
| REG: 6PRLC, 2000 | Ordinance No. 6 of February 18, 2000 on the terms and conditions for the registration of leases in the land commissions (REG: 6PRLC, 2000) |
| REG: PRLC, 2000 | Ordinance No. 1 on Minimum Amounts of Attorneys' Fees (REG: MALF, 2004) |
| REG: NARS, 2012 | Ordinance No. RD-02-20-6 of April 24, 2012 on issuing certificates based on the population register (REG: NARS, 2012) |
| TLCF | Tariff-Fees collected by land ownership authorities (TLCF) |
| TNF | Tariff-Notary fees under the Law on Notaries and the Law on Notarial Activity (TNF) |
| TCPC | Tariff-State fees collected by the courts under the Code of Civil Procedure (TCPC) |
| TIPC | Tariff-Tax and Insurance Procedural Code (TIPC) |
| T-14 | Fees for provision of services under the Law on Cadastre and Land Registry (T-14) |
| REG: ORD, 2016 | Ordinance No. RD-02-20-4 of October 11, 2016 on the provision of services from the cadastral map and cadastral registers—Promulgation DV. No. 83 of October 21, 2016, amended SG No. 6 of January 22, 2021 (REG: ORD, 2016) |
| EC, COM, IS, 2017 | European Commission (2017). Commission interpretative communication on the acquisition of agricultural land and European Union law (EU: C/2017/6168). |

Table A1. *(Continued).*

| Abbreviation | Full name of the normative act, court decisions, and others. |
|---------------------|---|
| EC, IP, 2015 | European Commission (2015). Infringement proceedings-BULGARIA, “Acquisition of agricultural land”. (EC, IP, 2015) http://europa.eu/rapid/press-release_IP-16-1827_EN.htm |
| D-CC, IS, 2014 | Decision No. 1 of the Constitutional Court of January 28, 2014, in constitutional case No. 22/2013 (promulgated, SG No. 10 of 4.02.2014) |
| S-SC, IS, 2015 | Resolution No. 2/2015 of 20.07.2017, delivered on Interpretative Case No. 2/2015 of the Supreme Court of Cassation (SCC) (Res. CC, 2015) |