



Munich Personal RePEc Archive

## **Economic framework for studying and assessing agrarian contracts**

Bachev, Hrabrin

Institute of Agricultural Economics - Sofia

18 July 2024

Online at <https://mpra.ub.uni-muenchen.de/121504/>  
MPRA Paper No. 121504, posted 19 Jul 2024 04:42 UTC

# Economic Framework for Studying and Assessing Agrarian Contracts<sup>1</sup>

*Hrabrin Bachev<sup>2</sup>*

**Abstract:** The achievements of the interdisciplinary New Institutional Economics are adapted and a holistic approach to the definition, classification, evaluation, and improvement of contracts and contractual relations is justified. Specificity of the economic study of agrarian contracts is summarized and a "new" approach for economic analysis, evaluation and improvement of agrarian contracts is presented. The later includes: (1) economic definition of agrarian contracts and characterization of their place in the system of agrarian governance as bilateral or multilateral agreements related to agricultural production and services; (2) economic characteristics of the agents participating in the contractual relations (interests, awareness, risk-taking, capability, tendency to opportunism, etc.); (3) economic characteristics of different types of agrarian contracts (for purchase and sale, hire of labor and resources, services, loan, insurance, marketing, coalition, etc.); (4) economic characterization of the agrarian contracting process (technological, transactional, institutional, etc. factors for managerial choice); (5) economic characterization of the outcome of the contractual process and the dominant governance order in the agrarian sphere (rule of law, rule of force, contractual structure, etc.); (6) characterization of the stages for the improvement of agrarian contracts and governance (identification of problems and failures of the market, private contracting, and public modes; needs and forms of new public intervention, etc.); (7) identification of needs and sources of new information for analysis and evaluation of agrarian contracts.

---

<sup>1</sup>This research was funded by the National Science Fund of Bulgaria, project "The Mechanisms and the Modes of Agrarian Governance in Bulgaria", Contract No. КП-06-Н56/5 dated 11.11.2021.

<sup>2</sup> Institute of Agricultural Economics, Agricultural Academy, Sofia, Bulgaria. E-mail: hbachev@yahoo.com

## **Introduction**

The analysis of agrarian contracts and contractual relations in agriculture has been at the center of economic science from its classical period to the present day (Furuboth and Richter, 2000; Goodhue, 2022; Michler and Wu, 2020; Massey, Sykuta, Pierce, 2020; Otsuka, Chuma, Hayami 1992; Mishra, Kumar, Joshi, 2022). This is due to their important economic role as a means of coordination, stimulation, distribution of risk, minimization of costs for the supply of resources and marketing of produce, as well as for the maximization of the output, income, and competitiveness of economic activity. In the last few decades, a new and modern direction of economic research has even developed and emerged – Economics of Contracts and Contractual Relations.

Around the globe, large number of theoretical and empirical studies and publications have been done on: the different forms of land ownership and the management of relations between land owners and labor (Land tenure systems), and more recently on the various contracts for the supply of land, manpower, credit, marketing, etc. in agriculture (Bellemare M. 2015; Dinterman, 2022; Deshpande, 2005; Mishra, Kumar, Joshi, 2022; Otsuka, Chuma, Hayami, 1992; Stebek, 2011; Voutos, Drakopoulos and Mylonas, 2019; Villaume, 2011; World Bank, 2015); the diverse types of contracts in the agrarian sphere - for trade, resource coalitions, joint activities, formal, informal, internal, external, bilateral, multilateral, classical, neoclassical, rational, short-term, long-term, relational, interlinked, futures, etc. (Deshpande, 2005; Goodhue, 2022; Ikeda and Natawidjaja, 2022; Mishra, Kumar, Joshi, 2022; Technical support, 2002; Veldwisch and Woodhouse, 2021; Villaume, 2011; Voutos, Drakopoulos and Mylonas, 2019); personal, historical, institutional, economic, natural, etc. factors for choosing a certain contractual form by agents (Alulu, Otieno, Oluoch-Kosura, Ochieng, Moral, 2021; Goodhue, 2022; Schieffer and Vassalos, 2015; Stebek, 2011; Voutos, Drakopoulos and Mylonas, 2019; Wu and MacDonald, 2015; World Bank, 2015); the comparative effectiveness of different types of contracts to overcome information asymmetry, control opportunism, share risk, and minimize agents' costs, maximize total output and income, and enhance farm competitiveness and sustainability, etc. (Alulu, Otieno, Oluoch-Kosura, Ochieng, Moral, 2021; Bellemare M. 2015; Dinterman, 2022; Deshpande, 2005; Michler and Wu, 2020; Mishra, Kumar, Joshi, 2022; Schieffer and Vassalos, 2015; Stebek, 2011; Technical support, 2002; Veldwisch and Woodhouse, 2021); the motivation and criteria for choosing a contractual form, and for vertical integration - make or buy decision, partial, quasi or full vertical integration along the supply and/or food chain (contract farming and marketing), etc. (Bellemare, 2015; Deshpande, 2005; MacDonald, 2015; Mishra, Kumar, Joshi, 2022; Technical support, 2002; Villaume, 2011); the evolution of contracts and contractual relations over time, related to the development of agents' preferences, the need for collective actions of different kinds (multilateral and collective contracts, codes of conduct, standards, etc.), public intervention and state involvement (cross compliance, eco-contracts, etc.), the modernization of technology and trade (automation and robotization of processes, digitization of production, management and trade, etc.), innovations in contracting (multilevel, multilateral, network, smart, carbon, etc. contracting),

globalization ("European" contracts, transnational contracts and agreements), etc. (Bellemare, 2015; Dinterman, 2022; Goodhue, 2022; MacDonald, 2015; Mishra, Kumar, Joshi, 2022; Stebek, 2011; Technical support, 2002; Villaume, 2011; Voutos, Drakopoulos and Mylonas, 2019; World Bank, 2015).

Individual schools of economics use different approaches to the analysis of economic contracts in general, and those in the agrarian sphere in particular. The Classical Economic school emphasizes and models mostly market (Spot-light) and standard and self-enforcing (Classical) contracts. Traditional institutional economics, on the other hand, emphasizes the determining role of property rights (property rights and enforcements) and the external (normative, societal, and institutional) environment for governing the behavior and relationships of agents. The popular Agency theory focuses on the different interests and unequal information of the contracting parties, and ways to overcome the related problems between the Principal and the Agent (Co-ownership, Output-based compensation, Neoclassical contracts, etc.). Nexus of Contracts theory considers the company only as a center of contracts (nexus of contracts), reconsidering the traditional understanding of the company and business organizations. Multiple theories of economic organizations attempt to combine some of these approaches to explain the nature, comparative effectiveness, and economic boundaries of organizations of different types (sole proprietorship, partnership with closed or open membership, corporation, cooperative, etc.). For a more complete understanding and adequate study of contracts, an inter- and interdisciplinary approach(s) combining law, economics, organization, sociology, political, and behavioral sciences is increasingly applied, with individual disciplines borrowing concepts and categories from each other and expanding the scope and studying approaches.

Regardless of all this development, however, the Neoclassical approach continues to dominate the economic analysis of contracts and governing structures, in which they are studied independently of each other and the specific institutional environment (Nirvana approach), without taking into account (zero transaction costs) or only partially take into account (Agency costs) the significant transaction costs related to the various forms of governance of the agrarian activity and relations.

In response to many of the contemporary scientific, social, and business challenges, in recent decades, a rapid evolution has been experiencing the "New" Institutional Economics (New Institutional Economics) and Transaction Costs Economics (Coase, 1991, 1998; Furubotn and Richter, 2005; Ostrom, 1999; Williamson, 2005; North, 1990). This interdisciplinary methodology (combining economics, management, organization, law, sociology, behavioral and political sciences), which is constantly enriching its scope and toolkit, makes it possible to better understand the system of economic governance and to evaluate the diverse market, contractual, private, public and hybrid forms and mechanisms of governance. It studies contracts and other forms and mechanisms of governance (institutional environment, market, internal, public, and hybrid forms) not separate from each other, but as an integral part of the overall system of economic governance. Moreover, it evaluates individual contracts not absolutely, but relative to other alternative

contractual and governance structures for organizing transactions and minimizing transaction costs.

Increasingly, the achievements of this new scientific approach are also being adapted in the analysis of governance structures and contractual relations in the agrarian sphere (Bulte, Richards, and Voors, 2018; Ducos and Dupraz, 2006; James, Klein, and Sykuta, 2011; Hayami and Otsuka, 1993; Kuzilwa et al., 2019; Ronaghi et al., 2020; Santiago and Sykuta, 2016; Sykuta, 2010; Sykuta and Cook, 2001; Sykuta and Parcell, 2003; Mugwagwa, Bijman, Trienekens, 2020), including Bulgaria to a lesser extent (Bachev, 2010a,b,c, 2013, 2021, 2023; Bachev and Terziev, 2001, 2002a,b,c; Georgiev, 2011; Georgiev, Stoeva, Dirimanova, 2023; Kocheva, 2018; Radeva, 2017; Sarov, 2017; Terziyska, 2016). However, the "great" potential of the New Institutional Economy has not yet been fully used for more complete identification of the variety of specific mechanisms and forms governing the behavior and actions of the various agrarian agents; to evaluate the relative and absolute effectiveness of the different types of contracts in the specific conditions of each country, sub-sector, region, etc.; to modernize contractual, organizational and institutional design; to improve public policies, farming and business strategies and the collective action of agrarian and related agents.

In Bulgaria, the studies of agrarian contracts are episodic, focused on individual types of contracts, or aspects, levels, or functional areas of management, or "simple" forms, and for the most part are unrepresentative. Moreover, individual researchers apply "their own" definitions and methodologies, which are often contradictory, broad, and highly debatable. This does not provide an opportunity to understand well and adequately assess the effectiveness, driving factors for development, and limitations of the structure of agrarian contracts and the system of agrarian governance in the country, and to analyze the overall benefits and effects of the specific and most often "complex" forms of governance used by different agrarian agents, individual types of farms, sub-sectors of production, and in specific agro-ecosystems and/or regions of the country.

This study attempts to answer several important academic and practical (forwarded to supporting agri-business strategies and public policies) questions: what is an economic contract and how does it differ from other (legal, sociological, etc.) approaches to its studying; what is the role of economic contracts in the system of agrarian governance; why there is such a huge variety of contracts used by agents; what are the main types of economic contracts and what are their comparative advantages and disadvantages; how to improve the system of agrarian contracting, etc. The article adapts the achievements of the interdisciplinary New Institutional Economics and offers a holistic framework for the definition, classification, evaluation, and improvement of contracts and contractual relations in Bulgarian agriculture.

# 1. Economics of agrarian contracting

## *1.1. Nature, role and definition of economic contracts*

The evolution of the economy is based on the specialization of activity and the need for exchange (of products, resources, rights, obligations, etc.) between individual agents, and therefore on the needs for "coordination of activity" and "managing relations" with other agents. This coordination and governance can be done completely "centrally" by someone or something, for example a regulatory document (law, regulation, etc.), a government body, an entrepreneur, a company manager, etc. Coordination and management can also be carried out by the "invisible hand of the market and market competition" and be a "side" result of fully "decentralized initiatives and actions" of autonomous agents (individuals, households, firms, etc.) that adapt their behavior to changing "free" market prices and conditions of exchange. In modern society, to an increasing extent, the coordination and governance of the activities of individual agents is carried out by detailed negotiation of special terms of exchange or joint actions between interested parties - negotiation of obligations, transfer of rights, specification of prices, quality, terms, technologies, method of payment, adaptation and dispute resolution mechanisms, forms of joint actions, etc.

For economists, contract is an "abstract" category that characterizes any agreement between individual agents. In modern settings, individual agents are largely "free" to manage their activities and relationships according to their interests and preferences, including choosing partners for exchange, trade, coalition, and cooperation, negotiating prices and terms of exchange, etc. Consequently, a significant part of economic and overall social activity is governed by some sort of private contracts (agreements) between individual agents.

For example, when the farmer buys seeds, feed, chemicals, property, etc. from the market, a "spotlight contract" is used, with which, at the moment of exchange ("on the spot"), a private purchase-sale agreement is reached and a given commodity is acquired (ownership transferred) from the farmer for payment of a certain ("market") price to the seller. When renting a certain natural or material resource (land, plantations, buildings, equipment, etc.), a lease contract is used, which stipulates rights and conditions of use, term, amount and method of payment of rent, etc. When hiring a workforce, an employment contract is concluded, with which the employer and the hired worker agree on terms and conditions of work, method of payment, social security and additional benefits, etc. In the sale of farm produce, long-term marketing contracts with processors or food chains are often practiced, which specify quantities, standards, delivery times, prices, interlinked-crediting, etc. When establishing or joining a collective organization (company, cooperative, corporation, association, etc.), the farmer signs a coalition (founding, partnership, membership, etc.) contract that regulates the rights and obligations of the co-owners and members of the collective organization.

There has long been a consensus among economists about the comparative advantages of a system of economic governance based on private property and free (market) negotiation between agents in terms of maximizing individual and overall welfare and minimizing individual and

aggregate costs. Along with this, the examples of the recent past of Bulgaria and other former communist countries, proved the high inefficiency (and failure) of another "model" of economic governance based on centralized management of economic activity and relationships of agents and strong limitation of their free initiatives and private contracting.

Private negotiation is the main form of governance of economic activity and in modern conditions there is a great variety of practically used and actually possible agreements (contracts) between individual agents. In the specific socio-economic environment in which individual agents function, there are always some institutionally ("externally") determined and sanctioned mandatory rules (for behavior, activity, trade, etc.) that (pre)determine to some extent their behavior and relationships (North, 1990). However, the governance of the overall economic activity is also carried out by means of other mechanisms such as market competition, collective decision-making, direct orders from a manager, etc.

In modern settings, individual agents have "full" freedom to coordinate and manage their activities and optimize resources through various types of contracts. In this sense, negotiating the "private" terms and conditions of exchange and controlling the fulfillment of contractual obligations is a main function (part) of the management of the individual, household, company, etc. activity. Externally determined rules and constraints (should) facilitate the relationships of economic agents. This "Public Order", however, cannot regulate all their sides for the diverse conditions of individual participants (Furuboth and Richter, 2005). Contract is that means of "Private Ordering" by which individual agents optimize their relationships, creating private rules for their exchange adapted to their specific conditions and needs (Williamson, 2005). The only institutional restriction is that private contracts do not contradict the laws and do not harm the interests of others.<sup>3</sup>

Each distinct type of contract has its own specific "economic" characteristics - different attributes, capabilities, advantages, disadvantages, limitations, costs, etc. for participating agents. Therefore, in economic analysis, each principal type of contract is evaluated as a specific element of a structure of social governance. Modern economics, distinguishes as fundamentally different structures of governance the "market management" (based on numerous "external" standard contracts based on "founded" by agents' "market" prices and conditions of exchange and competition) from "internal-firm management" (based on special contracts for "internal" integration, full control and direction of manpower and other resources).

For instance, the relationships between an employer and an employee are also negotiated through an employment contract, which establishes general conditions and obligations. After signing of the contract, however, the worker is obliged to carry out the orders of the employer during the contracted period, without having to make constant (re)negotiations during the use of the hired worker. Therefore, the labor contract is considered as a special governance structure

---

<sup>3</sup> "The contract is an agreement between two or more persons to create, settle or terminate a legal relationship between them. Individuals use their rights to satisfy their interests. They cannot exercise these rights contrary to the interests of society... The parties can freely determine the content of the contract, as long as it does not contradict the mandatory norms of the law and good morals" (ZZD, 2021).

(intra-firm integration of labor, “management by fiat”), which has its own economic advantages (lack of need for permanent bargaining at every change in the conditions of production and exchange) and costs (additional costs for directing, motivating, controlling, socially insuring, etc. of the hired labor). Between the two extremes of market and intrafirm governance there exists a wide variety (spectrum) of special "non-market" contractual forms designed or adapted by the participating agents to their specific preferences and needs and the socio-economic, institutional and natural conditions of their activity and exchange.

That is why, in the analysis of the overall system of social (and particularly agrarian) governance, it is said that part of the aggregate agrarian activity is governed (coordinated, directed, stimulated, sanctioned, etc.) "externally" by the movement of market prices and market competition (the "invisible hand of the market"), another part is guided "inside" an organization by means of orders (directly from the "visible hand" of a manager or governing body), and a third by means of "free" negotiations between interested parties (Bachev, 2010a,b). In the process of identification and comparative assessment of the diverse contractual forms that individual agents use, design or develop to coordinate and manage their activities and relations (market, bilateral, multilateral, short-term, long-term, etc.), their economic role in the overall system of economic and social governance is revealed.

The object of economic negotiation and exchange can be a given product, resource, service, activity, behavior, obligation, etc. Modern (New Institutional) economics studies contracts as a means of exchanging rights and obligations between agents (Bachev, 2010c). In this study, the contract is defined and studied as a means of voluntary exchange of rights and obligations between two or more parties, by which they govern their relationships, behavior and activities in mutual interest.

The rights that agents exchange (give and receive) can be over natural resources (land, water, biological resources, etc.), things (short-term and long-term tangible assets), knowledge, information and innovations (intangible assets), actions (provision of services, joint actions), or behavior (including limitation of certain actions), financial means, obligations, taking of certain risk, etc. The objects of the contract are only the rights that the given agents actually possess, as in relation to economic resources, these are rights of ownership, rights of management, rights of use, rights of extracting income, rights of transfer, etc. (Furuboth and Richter, 2005). In modern conditions, the scope of the rights of contractual trade and exchange is constantly expanding to include new objects (origins, trademarks, waste, virtual objects, etc.), activities (control of technology and agrotechnics, access to private lands and resources, improvement the quality of air, water, soil, etc.), use of new energy sources (solar, wind, bio, recycling or use of "waste", etc.), interests of third parties, groups and future generations, improving the "welfare" of animals and plants, ecosystem services (biodiversity protection, combating climate change), etc.

Free private negotiation implies (mutual) benefit to all parties to the contract - "economic equivalence" of what each party gives and receives from the exchange (“mutually beneficial exchange”). For example, the classical contract for the purchase and sale of a resource, good or service usually involves the payment of some (negotiated or market) price in money, in kind with



another resource or product, in services, etc. In a contract for joint actions (collective actions), on the other hand, the individual benefit can be expressed in additional profit, economies of scale, confrontation of monopoly, efficient "production" of public and local goods such as ecosystem services, etc. However, the contractual exchange is not always "fair" and mutually beneficial, especially in the agricultural sector, where there is often a monopoly or quasi-monopoly situation in the supply of critical resources (e.g. water for irrigation, energy, etc.) or in the marketing of agricultural products and services – undeveloped markets, single or few buyers or sellers. Under these conditions of “contractual asymmetry”, farmers are forced to accept “contractual terms” drawn up by and for the benefit of a particular supplier or buyer.

In the modern economy also there are many cases of pre- and post-contractual opportunism, when one of the parties hides his intentions of "cheating" in the negotiation process (mismatch of experience or willingness for productive efforts of the hired worker, real fertility of the soil in the case of land for lease and etc.) or takes advantage of changed conditions (market prices, demand, natural disasters, etc.) in the process of implementation of contractual arrangements at the expense of the other party. In the agrarian sector, there are also cases of unwanted "contractual exchanges" (forced transactions) due to “power positions” of certain individuals or groups in the distribution and trade of critical resources or products. The latter are essentially direct trespass to property, not much different from criminal theft, and are not contracts in the economic sense.

In contemporary conditions of developed markets and competition, the variety and scope of contractual benefits obtained is constantly expanding - maintaining business relationships, accompanied or related benefits, rights to participate in profits or in ownership, facilitating access to markets or resources, lobbying to obtain public support and subsidies, etc. Along with this, the forms of "free", including contractual, provision of resources, products or services from private, state, local, non-governmental, international, etc. organizations and agents are also increasing. For example, many farmers provide a free "service" (give the right to outsiders) of free access to (certain) territories of the private farm for trespassing, excursions, events, hunting and fishing, etc. When the free provision is not institutionally determined (formal or informal obligation), or a "new" initiative of certain individuals or groups<sup>4</sup>, the private benefits of this type of agreement are expressed in the satisfaction of the charity activity of one (the donating) party and some need (lack of access to finance, land resources, training, and other products and services) of the other (beneficiary) party to the contract.

---

<sup>4</sup> For example, the movement for sustainable agriculture initially emerged as an informal initiative of certain (green) farmers and interest groups, and subsequently became institutionalized and a part of the official policy of the state (including the EU CAP), international, non-governmental, business and other organizations.

## *1.2. Absolute and relative rights and related costs*

Agents can only negotiate, exchange, grant and trade rights that they actually own. In this sense, economists distinguish between "absolute" and "relative" property rights of individual agents (Furuboth and Richter, 2005).

Agents' absolute property rights are determined by the prevailing institutional order ("Institutions" or "Institutional Environment"). The "initial" distribution of rights and obligations between individual agents in society (or the "rules of the game") is made both by formal laws and normative documents, and is also determined by tradition, moral, religious and ethical norms, etc. (North, 1990). In modern conditions, much of the property rights of agents are determined by formal laws and the normative system and protected by state and judicial power. For example, the right to private ownership, management and trade in agricultural land in Bulgaria was restored by the Law on the Ownership and Use of Agricultural Land and its amendments after 1990. "Inviolable" private ownership of the means of production (including the right of private inheritance) creates strong incentives for their effective preservation and management by agents, and this is guaranteed by the country's constitution. In the conditions of democracy and EU membership, a large part of rights and rules are defined by "social consensus" (agreement) in a political decision-making process, by common EU policies and also by international agreements in which the country participates.

Bulgaria membership in the European Union provided many new rights and better enforcements of the existing rights of citizens, including in the agrarian sector (private property, free contracting, income protection, nature conservation, food safety, etc.). Along with this, there is also a tendency to institutionally limit absolute private rights in the European Union and on a global scale. For example, formal restrictions are constantly introduced on the way of use and trade of agricultural lands, production of outputs<sup>5</sup>, application of technologies, use of chemicals, etc. In the agrarian sector there are also many informal rights and rules predetermined by tradition, historical development, ideology, cultural, moral and ethical norms and rules. For example, free access to private, municipal or state lands in mountainous, etc. areas for grazing of private animals, of rivers, lakes and groundwater for irrigation of private property, watering of private livestock, fishing, etc.

Creation, identification, maintaining, inheriting, defending and contesting absolute rights involves significant private and social transaction and overall costs. For example, the political discussions and the modernization of the legal framework for the restoration of private ownership of agricultural lands and property (of the existed public agricultural farms), and the process of restitution of the lands in "real borders" and the individual shares in the other assets after 1990, took almost 10 years, and they were associated with enormous public and private costs. Currently, private agents pay significant fees for mandatory registrations and taxes of land property, movable and immovable assets, agricultural and animal husbandry activities, trade name and license, when establishing a cooperative, agro-company, professional association, non-governmental

---

<sup>5</sup> For example, the production of cannabis is prohibited in many countries.

organization, etc. Agents also have substantial transaction and overall costs to protect private, municipal and public property from misappropriation and misuse (theft), damage or destruction as a result of accidents, wildlife, natural disasters, etc.

Relative property rights are those that are negotiated (transferred, granted, exchanged, traded, etc.) between private agents by contract. The contract can transfer owned absolute property rights in full (sale, donation, exchange, participation in an organization) or in part (rent, loan, etc.). For example, the private owner of a plot of agricultural land can transfer with a lease contract to a farmer partial property right, such as the right to cultivate and receive income for a certain period of time against a certain price (rent), services (preservation of soil fertility, ecosystem, etc.) or free of charge. At the same time, the lease agreement does not give the right for non-agricultural use of the land, construction, prospecting for minerals, provision to third parties, sale of the plot, etc.

Bulgaria's membership in the European Union has significantly improved the protection of the contracted rights of citizens (legal consultations on the rights of agents and ways to protect them, antitrust protection, consumer protection, etc.), including administrative and judicial procedures. However, at the same time, there is a process of institutional limitation of the contract rights in the European Union and on a global scale. For example, agricultural products that do not meet minimum quality and safety standards cannot be produced and traded; the object of sale can only be the right to use the labor force, and not the personality of the worker<sup>6</sup>; the use of child labor is prohibited; the sale of certain products or services is to be carried out at fixed prices or through licensed organizations, etc. Negotiating, transferring, defending and disputing relative rights is also associated with significant transaction costs for individual agents and society as a whole – for finding interested parties for contacting, for negotiating terms of trade (exchange), for writing and registering the contracts, for the execution and control of conditions of agreements, for disputing and resolving conflicts, for termination or conclusion of contracts, for failed transactions, etc.

For economic governance it is very important the absolute rights of agents over resources, activities, etc. to be well defined and enforced, and the contracted rights effectively enforced. If the rights to a given resource or activity are not (well) defined and sanctioned, this creates high difficulties (costs, inefficiency) in the optimal distribution and use of overall economic resources. For example, if the right to clean water is not defined, provided and enforced, it leads to serious conflicts between the polluter (livestock farmer) and other agents (consumers, interest groups, etc.) that cannot be resolved through private contract between the parties.

Coase proved that "the problem of social cost" does not exist in conditions of well-defined property rights and low (zero) transaction costs (Coase, 1960). In this situation, agents easily and "costlessly" trade the rights they own, optimize the allocation of resources in their own interest, and maximize the total product (welfare) without the need for external government or other intervention in private contractual relations. Either the polluting farmer "buys" the right to pollute by paying a corresponding price to the affected agent (who has the right to clean water), or the

---

<sup>6</sup> In some countries and regions, certain segments of population have no right to work (e.g. asylum seekers in EU, women in Afghanistan, etc.), while in other "illegal" child labor is widely used, and even people slavery exists.

negatively affected agent pays the necessary price to the farmer not to pollute (when the latter owns the right to pollute).

Absolute rights can only be defined, extended, amended, or taken away through formal or informal institutional modernization, with any "illegal" theft being prosecuted and punished by the state, community, or public. Relative rights, on the other hand, can be stolen through the contract – for example, the sale of poor quality or inauthentic (fake) goods in an instant exchange. Most often, there is also a time period between the contracting (and the signing of the contract) and the fulfillment of the assumed ("promised" future) obligations in the agreement - for example, the sale of a future crop, the lease of land, a loan in money or in kind, etc. This time lag between contracting and fulfillment of the contracted agreements gives one of the parties the opportunity to "steal" the rights and change the rules (failure to fulfill the promises) established in the contract - delay or failure to deliver the promised harvest, non-payment of the agreed land rent, non-return of the loan with interest due etc. Therefore, selecting or designing an efficient and inexpensive contractual form to protect the interests and investments of the participating agents, adapted to their specific needs, risks and conditions of production and exchange is an important part of governance (Williamson, 2005).

### *1.3. Specificity of the economic study of the contract*

The economics study of contracts differs significantly from the legal understanding of this category. For lawyers, the contract is only a legal document for registering a unilateral or bilateral legal relationship - volition or agreement (ZZD, 2021). Contracts are the only formal agreements between agents that are legally permitted, legally prepared, and legally protected. Moreover, for each individual type in the variety of legal contracts (for sale, lease, exchange, loan, donation, construction, order, deposit, financial provision, association, etc.) a "large" part of the conditions and restrictions (agents, object, content, maximum or minimum term, method and amount of payment, main obligations of the parties, order of compensation, method of amendment and termination, etc.) are regulated in detail. The contract is usually in writing, often requiring mandatory notarization, presence of witnesses, use of formal forms (template), registrations, entries, public disclosure, provision of copies to authorities, etc.

The object of legal contracts are only the exclusively formal rights that agents possess and can (legally) exchange in a given country, region, sector, field of activity, etc. At the same time, lawyers distinguish between rights, obligations, powers, etc., with the rights being material, intellectual, commercial, (fundamental) personal, organizational, property, etc. Each type of legal rights is usually established and regulated by general or special law or court decisions - Constitution, Law on Obligations and Contracts, Labor Code, Law on the Ownership and Use of Agricultural Lands, Law on Agricultural Tenancy, Commercial Law, Law on Cooperatives, etc. The only way is the "legal" protection and disputing of the arrangements through a public institution in the given jurisdiction - court, arbitration, administrative body, etc. The "economics of contract" from a legal point of view is solely related to the (monetary) costs, fees, payments,

and compensations, associated with the drafting, registration, and contestation of the various types of contracts.

For economists, on the other hand, what matters are not the “de-jure” (written), but the “de-facto” rights that economic agents actually possess and can use and manage<sup>7</sup>. For economists, there are only the agent rights<sup>8</sup>, all of which are property rights established and enforced either by formal laws and regulations, or provided and sanctioned by informal institutions (including self-enforced by individual agents). Economic contracting is a fundamental part of the management process, in which two or more parties always participate, and in which "some" rights are voluntarily granted, established or exchanged between agents (agreed upon by the parties, including informal and illegal agreements). The object of economic study are all types of agreements (oral, written, standard, complex, bilateral, multilateral, legal, informal, national, transnational, etc.) that govern the activity, behavior and relationship of agents.

While jurists distinguish contracts for purchase, exchange, donation, deposit, loan, etc. for economists, they are all mutually beneficial contracts for "purchase and sale" - of permanent transfer of ownership rights to a thing or resource (natural, material, financial, intangible, etc.), temporary transfer of right of use (rent of labor, lease of land or property, loan), temporary transfer of risk (insurance), etc. At the same time, the price of this transfer can be in money, resource, product, service or other benefit, and also be zero - a free temporary or permanent transfer for one of the parties to the contract. In addition, economists distinguish between contracts for (temporary or permanent) transfer of rights and obligations when organizing coalitions (combination of ownership of resources or "selling" shares in ownership) and joint activity (for realization of economies, benefits, effect of "collective" activity or behavior) to achieve common socio-economic, environmental, political, etc. goals of agents.

The economic contract is a basic means for governing transactions between agents and for minimizing transaction costs, which are turned into a "basic unit" and the center of economic analysis (Williamson, 2005). The transfer of rights (transaction) occurs with the signing of a contract, but the management of contractual relationships and transactions is a process. It often covers long periods of time and is associated with significant transaction costs - for finding partners, for negotiations and bargaining related to the terms of exchange and the obligations of the parties, for writing and registering contracts, for implementing contracted agreements, for control and verification, for subsequent adaptation in accordance with the current changes in conditions of exchange, for the resolution of contradictions and disputes (including with the participation of a third party), for termination, conclusion or resumption of the contract. Economists are interested in the total effect (economic and other benefits) and total (transaction and other) costs for agents in the process of negotiating, implementing, and concluding contractual arrangements.

---

<sup>7</sup> For example, in Bulgaria, private ownership of agricultural land was formally preserved in the communist period before 1990. In practice, however, the landowners did not have any de facto power to use, benefit or manage the private ownership of this basic resource included in the assets of the various collective organizations (TKZS, DZS, APC, etc.) during this period.

<sup>8</sup> "Obligation" is also a right granted by one party to the contract to the other.

In Economics, contracts are a means of governance and optimizing the allocation of resources. Therefore, of interest are their absolute and comparative advantages and disadvantages (potential, efficiency, and costs) for managing diverse transactions of agents - to minimize transaction costs and maximize transaction benefits (coordination, incentives, control, investment protection, adaptation, "internal" dispute resolution, etc.). Economic contracting and economic contracts are part of overall economic governance<sup>9</sup> and through them a significant part of the aggregate economic activity of agents is managed. However, only a small part of economic contracts concerns legally established rights and obligations and/or can be legally protected by a third party (state, court, etc.).

#### *1.4. Definition and classification of agrarian contracts*

Agrarian contracts are a whole class of contracts of different types related to the agrarian sphere. There is no generally accepted official legal or other definition of agrarian contracts, but their economic definition is easy – sectoral (industry) characteristics. Agrarian contracts are all bilateral or multilateral agreements related to agricultural production - the production of crop and livestock products and agricultural services.

The farmer and the farm entrepreneur are the main agents in agricultural production and all the contracts and contractual forms they use to supply the necessary land and natural resources, labor, services, material, biological and intellectual assets, finance, sale or sharing of risk, marketing of products and services, lobbying for public support, etc. are classified as agrarian. All coalition contracts of owners of resources (land, labor, capital, know-how) related to the organization and implementation of farming activities are also agrarian - partnership associations, companies, corporations, cooperatives, associations, etc. According to this logic, by definition, all contracts that the collective organization (most often registered as a legal entity) concludes on behalf of and "in the interest" of its members (partners in the coalition) are agrarian. Agrarians are also the various agreements for collective actions of agricultural producers (with competitors, with other farmers or interested parties), regulating general (professional, etc.) norms of behavior, standards for the use of resources, production and trade, provision of ecosystem services, protection of special origins and trademarks, etc.

In some cases, agreements between agricultural producers - competitors aim to realize (impossible within the border of the individual farm) economies of size or scale (for example, joint marketing or inputs supply), respond to the problem of "missing markets" (for example, agrarian credit, sharing economic or natural risk, etc.) or a means of countering an existing monopoly in supply or purchase. In other cases, contracts are a means of implementing formal regulatory requirements (e.g. registration of group farming, joint project, association for the protection of geographical designations and origins, etc.) or to circumvent formal institutional restrictions (e.g. formal division of a farm/organization into several smaller ones to make it possible to manage more agricultural land, receive certain or more public subsidies, etc.).

---

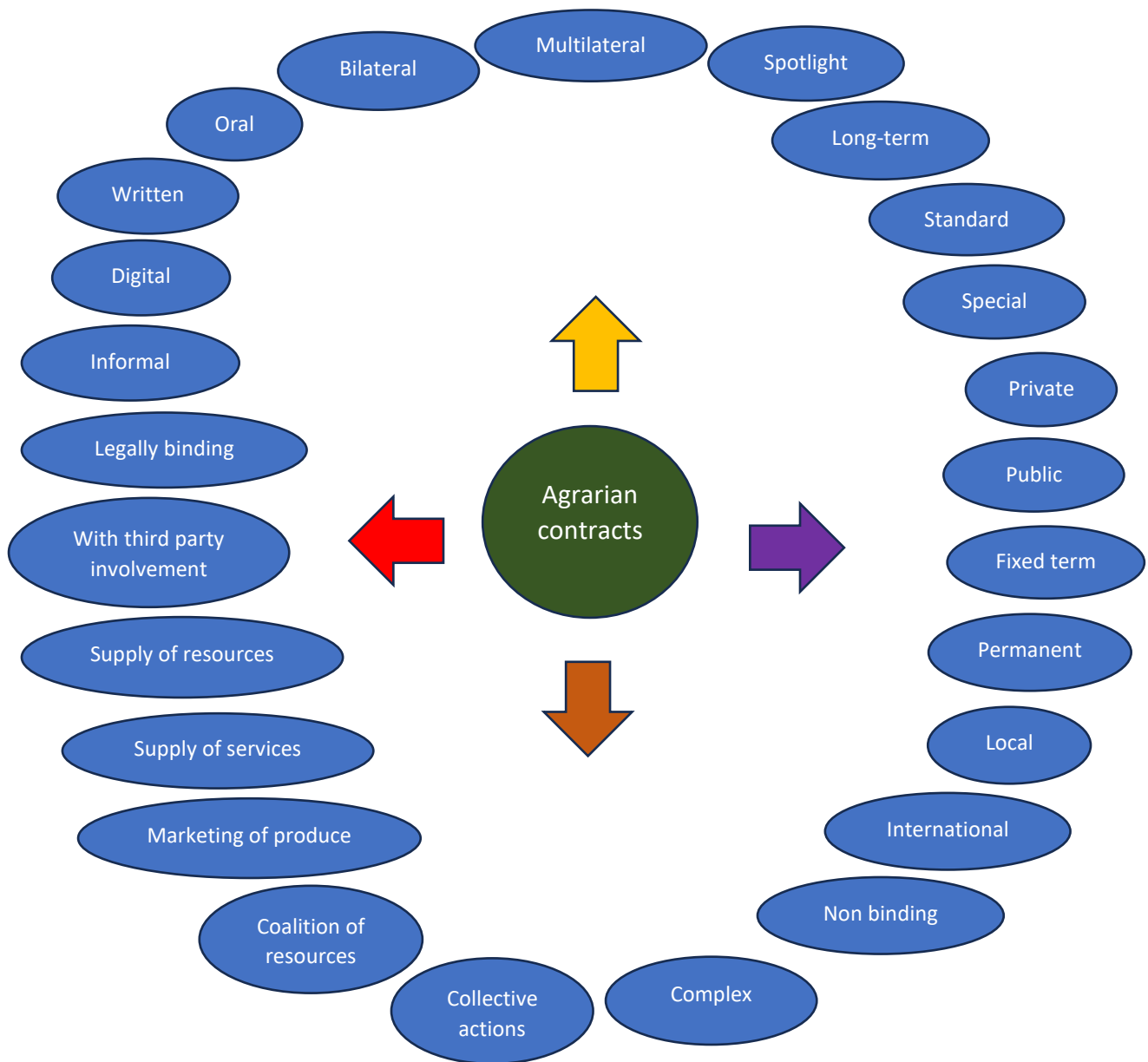
<sup>9</sup> Economics of governance is "lens of contract construction" (Williamson, 2005).

Agrarians are also the public contracts in which farmers and their organizations voluntarily join to receive European, national and local support (subsidies, financing) and services against payment, free of charge or against the assumption of some obligations (for example, cross-compliance, inclusion in a public initiative, public-private partnership, etc.). On the other hand, contracts related to the agrarian sphere, which state bodies conclude on behalf of citizens of a country (e.g. Bulgarian Agreement on Accession to the European Union and application of the CAP, Green Deal of the European Union, etc.) are not considered agrarian. Like the general institutional arrangement (laws, official norms and standards, etc.), which is also the result of some formal or informal "social contract", they represent an institutional environment with which agrarian agents must comply and in which they manage their contractual relations.

Agrarian contracts have different economic dimensions and characteristics. Depending on various economic characteristics (form, number and type of participants, object, period, compulsoriness of obligations, method of protection, complexity, etc.), different types of agrarian contracts observed in modern Bulgarian and international practice can be distinguished (Figure 1). In contemporary conditions, each individual agrarian agent and the organizations he/she creates or is a member, participate in a large number and different types of contracts. In modern conditions, the system of agrarian contracts develops as a complex, networked and multi-layered system, including various agrarian and non-agrarian agents participating in the process of agrarian contracting, who manage their relations and activities by means of various contractual means (types of agrarian contracts), as a result of which in any given period of time in a given country, region, sub-sector, type of farming, agro-ecosystem, etc. a certain contractual and managerial order dominates.

Therefore, the holistic economic analysis of agrarian contracts, say in Bulgaria, is to include all these components - analysis of the type and economic characteristics of the agents participating in agrarian contracts in contemporary Bulgarian conditions; classification and economic analysis of practically used and other feasible types of agrarian contracts in modern Bulgarian conditions; economic analysis of the process of agrarian contracting and contract implementation in the specific socio-economic, international, natural, etc. conditions of Bulgaria; economic analysis of the "created" specific contractual order in the agrarian sphere of Bulgaria - the result (outcome) of the contracting process between the agents and the choice of effective forms for governing their relations.

**Figure 1. Types of agrarian contracts depending on basic economic dimensions**



Source: author



## **2. Agents of agrarian contracts and their economic characteristics**

### *2.1. The participants in the agrarian contracts*

The farm manager and entrepreneur (the farmer) is the main agent of contractual relations in agriculture, as well as the organizations he/she registers or participates in - family or partnership associations, legal entities (companies, cooperatives, corporations, etc.), professional associations, etc. (Figure 2). Other main agents of agrarian contracts are the owners of agrarian resources – land, labor, capital, biological and intellectual assets, etc.

Farm suppliers of services, biological, tangible and intangible assets, financing, insurance, etc., as well as buyers of farm produce and services are other major parties in modern farm business and agrarian contracting. In addition, the various public (state, local, non-governmental, international, etc.) organizations that reach various agreements with farmers and their organizations (for financing projects, subsidizing, providing or buying services, joint activity, partnership forms, etc.) are an important participant in contractual relations in the agrarian sphere at the modern stage. A relatively large part of the public contracts in the agrarian sphere at the current stage are for the implementation of institutionally defined rights ("social contract" for intervention) for public subsidies, training, consultations, etc. services for farmers (for example, area-based payments from the EU CAP, subsidies for number of animals, etc.).

**Figure 2. Elements of the economic analysis of the system of agrarian contracts**

<b>Agents</b>	<b>Means</b>	<b>Processes</b>	<b>Results</b>
Farmers, farm entrepreneurs and their organizations Owners of agrarian and related resources Suppliers Buyers Consumers Interested persons or organizations State and international organizations Contractual skills Age and preferences Bounded rationality Pre-contractual opportunism Post-contractual opportunism Free riding Trust Reputation Institutional environment Technologies Digitization Power positions Abuse of power	Contracts for the permanent transfer of ownership rights to assets Standard sales contract Special sales contract Comprehensive sales contract Donation contract Public assistance contract Trilateral contract Lease contract (lease) of resources or things Labor contract Service provision contract Relationship Agreement Ecosystem Services contract A loan agreement Insurance contract Coalition agreement Joint Action Agreement Official rules and restrictions Informal rules and restrictions	Preparation and signing of the contract Implementation and control of the contract Renegotiation of contract terms Disputing contract terms Completion or termination of the contract Contract renewal Frequency of transactions between same agents Uncertainty related to transactions Specificity of investments Appropriability of rights Fundamental transformation Neoclassical contract Monopoly relations Unfair practices Clientelization Vertical quasi or complete integration Horizontal integration Interlinked transactions Long-term cooperation Exclusion of small producers from modern food chains Bankruptcy Inefficiency by design of public modes	Market order Contract order Private order Collective order Public order Hybrid forms Efficiency and costs Institutional restrictions Improving public protection of private contracts Modernization of rights and rules Improving public support contracts Improving forms of public intervention (assistance, training, information, regulation) New forms of public-private partnerships Rule of Law Gray and informal sector

Source: author

The various agents involved in agrarian contracts often have different contractual needs and interests - supply of necessary resources, business expansion, profit, exploitation of economies of scale and scope, risk minimization, preservation or restoration of traditions, conservation of natural environment, etc. The analysis of the structure of contractual needs and incentives of agrarian agents is an important stage in the analysis of contractual relations.

For example, an elderly individual farmer without a successor ready to take over the farm is unlikely to engage in intensive, long-term and high-risk business expansion contractual relationships with suppliers of land, labor, capital, etc., to participate in new organizations or public programs etc. Other important characteristics of participants in agrarian contracts are contractual and production skills and experience, training, personal preferences, etc. For example, good managers will be able to manage more and more complex external contracts, and control more hired workers, higher risk takers will prefer more market counterparties and less protected and

cheaper "simple" contract forms, those who prefer private or family farming will not participate in permanent coalitions such as agro-firms, cooperatives, etc.

## 2.2. "New" (more) realist assumptions about "human nature"

Particularly important for the analysis of contractual and overall economic relations are two "behavioral" characteristics of individual agents - bounded rationality and a tendency towards opportunistic behavior (Williamson, 2005). Moreover, these attributes are inherent both to individuals and to collective organizations (legal entities, government agencies, etc.). These "human nature" characteristics of agents are the reason for the existence of transaction costs in economic and overall (including agrarian) activity and relations. The latter makes them a basic element of economic analysis of contractual relations and diverse organizations in the agrarian sphere.

In traditional economics, economic agents are studied as perfect – fully “rational” self-interested individuals, households, firms, etc. In the real economy, however, agrarian agents do not possess complete information about other agents and their real intentions, and about the economic system as a whole (price levels, available markets, possible partners, evolution of business and trade conditions, etc.), since collection and processing of such information is either very expensive or practically impossible (e.g. partner's intent to cheat, multiple markets and prices, future events and institutional changes, etc.). Therefore, they have to make (often) significant costs to "increase" their rationality - for training, for finding good partners and prices, for hiring consultants, for detailed negotiation and writing of the obligations of the parties, including for possible changes in the terms of exchange, for forecasting, for insurance against possible risks, for adaptation, overcoming disagreements and disputing the arrangements, including through expensive expertise, legal proceedings, etc.

Agrarian agents are also prone to opportunism, and if there is a practical opportunity for one of the parties to the contractual relationship to obtain with impunity an additional benefit ("surplus profit", rent) from the exchange, he/she is likely to take advantage of it<sup>10</sup>. At the same time, three basic forms of opportunism are practically possible, which are well described in the economic literature:

- Pre-contractual opportunism (Adverse selection), when one of the contracting parties takes advantage of the bounded rationality and information asymmetry of the partner and negotiates "better" terms of exchange - for example, fixing a higher land rent without revealing the actual fertility of the leased agricultural land; negotiating a higher salary without disclosing the candidate's real qualifications and experience or unwillingness to work hard after hiring, etc.

- Post-contract opportunism (Moral hazard), when one of the contracting parties takes advantage of the impossibility of fully controlling his/her activity (by the other partner(s), or a third party) or when he/she receives a legitimate benefit from unexpected changes in the contracted

---

<sup>10</sup> According to Williamson (2005): "opportunism is self-interest seeking with guile (which) includes ... more blatant forms, such as lying, stealing, and cheating ... (but) more often involves subtle forms of deceit."

terms of exchange in the process of the contract implementation (for example, a sudden change in costs, prices, regulations, natural conditions, etc.). A typical example of this type of opportunism is when the hired worker, instead of performing his/her work duties ("working" for the farmer) during working hours does other things (internet games, private conversation on the phone, drinking coffee, etc.) or does personal business, often with farm assets (cultivates another farmer's plots for personal pay, carries out transportation for a private agent, etc.). Another typical example of this type of opportunism is in (larger) organizations (cooperative, corporation, state agency, etc.) with "separation of ownership from management", which is manifested by hired managers who do not "work in the interest of the owners" of the organization - a problem known in economics as the Agency problem (concluding deals in one's own interest, taking advantage of positions, corruption, etc.);

- opportunism of "Free riding" type, which manifests itself in the formation and evolution of numerous collective organizations, in which the individual benefits from the new organization are most often not proportional to the individual efforts (costs, investments) for its creation, registration, management and development. A dominant tendency is for each to expect others to invest in organizational development and to benefit from the new organization if successful, so that otherwise effective for participants "collective organizations" either do not emerge or are not sustainable in the long term. In Bulgarian agriculture there are many "good" examples in this regard in the last thirty years - failure to develop effective (supply, marketing, processing, credit, etc.) cooperatives and professional organizations (to oppose monopoly, sharing of market or natural risk, lobbying for public support, etc.) of farmers.

Most often, it is too expensive or impossible to write a "comprehensive" contract specifying the obligations of the parties under all possible conditions of their exchange - "all complex contracts are imperfect" (Williamson, 2005). Moreover, it is costly or impossible to distinguish opportunistic from non-opportunistic behavior due to the bounded rationality of agents (e.g., the farmer finds out that the purchased seeds are not superior quality or authentic variety only after the seeds have germinated or during the sale of the crop, and it is difficult to recover losses). In the absence of opportunism, bounded rationality would not matter much, since whenever the terms of exchange changed, agents would always adapt (optimize) their arrangements in mutual interest.

Therefore, contracting "rational" agents (always) seek to protect their rights, investments, and transactions from risk of opportunism by: "prior efforts to find a secure partner and design an efficient form for his commitment and subsequent investments to prevent (through monitoring, controlling, encouraging cooperation) of possible opportunism at the contract implementation stage" (Williamson, 2005). Thus, for example, the farmer prefers a contract ("business") with family members or close acquaintances (high mutual trust, goodwill, and common interests of the parties, etc.), or with market or private agents with an established "reputation" ("well-known" specialists and workers, established suppliers or buyers, famous brands of equipment, chemical preparations, etc.). In addition, mechanisms for "self-restriction" of opportunism are designed in the process of negotiation (for example, output-based payment of the hired labor or purchased

service, practicing share rent when renting land and plantations, advance payment by the buyer when selling farm produce etc.) or includes an "economic hostage" to limit opportunism (joint investment in a new organization, mandatory collateral for a loan, etc.).

The "high" bounded rationality and opportunities for opportunistic behavior in the agrarian sphere are the main reason for the dominance of relatively "small", non-hierarchical, and single or small-ownership farming organizations in Bulgaria and all over the world (in contrast to other sectors of economic activity, where large, shareholding and hierarchical forms on a national and transnational scale is widespread). A large part of the traditional economic discussions related to the choice of the most effective form of organization of land use (Land tenure) and the way of supplying resources and products are also related to "optimizing incentives" and "building protection" from possible opportunism in conditions of bounded rationality of agents - "make or buy an input", "buy or rent a resource", "hire a worker to cultivate your land or lease out the land to the worker with a share participation in the product (share rent)", "to sell a share in the property or buy a loan to finance the farm" (sale share or buy debt), etc. The significant volume of public contracts in the agrarian sphere also provides opportunities for illegal distribution of public funds as a result of bounded rationality and opportunistic behavior on the part of both public officials (abuse of power) and farmers (inaccurately or incorrectly filled declarations of beneficiaries, inefficient management and corrupt practices of responsible government officials and private agents, etc.).

### *2.3. Transaction cost factors*

The bounded rationality of agents and their tendency to opportunism are the reason for the existence of transaction costs in agrarian activity and relations, and therefore a basic element of modern economic analysis. In an ideal world with no ("zero") transaction costs (complete rationality, no opportunism, well-defined rights of agents), the contractual form of carrying out the exchange between agents would have no economic significance.

In this situation, "maximum output and welfare" will always be realized (through effective bargaining and adaptation in mutual interest) regardless of whether agents' activities and resources are governed by market price movements and market competition (the "invisible hand of the market"), by special contractual form (private negotiation), through collective decision-making (cooperative), from the visible hand of the manager (firm), or from a private or national hierarchy (company, state administration) (Bachev, 2010a). Therefore, designing and selecting an effective (contractual, private, hybrid, etc.) form to overcome bounded rationality and safeguard against possible opportunism in the specific socio-economic, institutional, technological, natural, etc. conditions in which agrarian agents carry out their activities and relationships occupies an important place in economic analysis and agrarian management.

The socio-economic and institutional environment is an important factor for increasing the rationality and limiting the opportunism of the agents, and therefore also for intensifying the contractual relations between them. For example, with a good and stable regulatory and legal

framework, dominance of the "Rule of Law", developed markets and strong competition, lack of monopoly structures, effectively working state and judicial system, built "trust" and "culture" of cooperation in society, high transparency, social intolerance towards and punishment of offenders, lack of tolerance for the application of "power" relations, etc. (generally at low "institutionally determined" transaction costs) more market and standard arrangements between agents are practiced.

Conversely, when the socio-economic and institutional environment is "inefficient" (imperfect formal regulation, poor public enforcement, dominance of "personal connections", monopoly, corruption, etc.) or dynamically changing, then contractual relations are highly difficult and limited, with smaller, internally-integrated, informal or primitive forms dominating.

The development of knowledge and technology is also an important factor in minimizing transaction costs and modernizing contractual relations at sectoral, national and transnational scale. Here we will only mention the great progress that the modern mechanization, automation and digitization of agriculture and trade provide to facilitate and intensify the activity and relationships of economic agents (standardization of operations, precise measurement, control and reporting, etc.), to diversify and increase the efficiency of their contractual relations (on-line advertising, negotiation and trade, publicizing unfair practices, virtual organizations, satellite control, etc.), and minimizing transactional and overall costs for agrarian activity.

### 3. Types of agrarian contracts and their economic characteristics

There is a wide variety of contractual relationships in which the farm entrepreneur (farmer) and his/her organizations are or may be involved. Individual types of contracts have different specific characteristics – specific object, formal requirements, possibility of effective transfer and protection of various rights, costs related to preparation, execution, monitoring, continuation, dispute and termination of the contractual terms, etc. The economic analysis is to establish the potential, advantages and disadvantages of the individual contractual forms in order to be able to choose the (most) effective form for managing the farmer's relationship with other agents. For economic analysis, agrarian contracts are to be grouped into several principle types:

*- Contract for the permanent transfer of ownership rights to a given resource, asset or thing (Sale, Purchase, Donation).*

This type of contract deals with the permanent transfer of rights to a given natural, material, financial or intangible resource or thing in exchange for payment of a certain price or for free. Therefore, it is suitable to manage a large part of farm transactions related to the supply of resources (excluding labor and some nationally owned natural resources) and the marketing of output and services. In the Classic Contract for the purchase and sale of a standard resource or product, there is usually some price in money, in kind (barter transaction with goods and services), another resource, or in some right<sup>11</sup>. In a special or joint donation contract, "the price is zero" as the benefits to the seller are in "satisfaction from donation activity" or in the realization of other altruistic goals. A public assistance contract (land, subsidy, project, etc.) transfers rights to critical resources free of charge to eligible and interested farmers under some more general "social contract" (policy decision, regulatory document, EU CAP, etc.).

In most cases of standard sales between private agents, the relationship is "impersonal" (the identity of the seller or the buyer is irrelevant), because behind the contract there is always the "invisible hand" of the market (market prices) and market competition (many participants). Public purchase and sale contracts, on the other hand, allow for great abuses, as there is an opportunity for interested persons or groups to benefit in the process of intervention with public funds (Inefficiency by design) - fictitious tender procedures, inflated prices, "favorable" contractual conditions, delayed or poor-quality delivery, provision of projects and subsidies to related party, etc.

In the agrarian sphere, non-standard and even "unique" private arrangements between parties are often used for transfers of specific natural resources, parts or combinations of agro-ecosystems (and ecosystem services), traditions, know-how, original products and "customized" services etc. where "the identity of the agent or agents" is relevant (matters). In some sectors of agricultural production, the use of Special and Complex Purchase-Sale Contracts is determined by the specific nature of the product bought or sold by the farmer, special requirements for production

---

<sup>11</sup> Lawyers distinguish between a Contract of Sale and a Contract of Exchange (ZZD, 2021).

conditions, volumes and timing of delivery, or the need to sell it in a "package" with another product or service. Such contracts most often refer to new varieties of plants, high-quality or new products, organic and eco-products, specially protected origins, production designations, special technology (green harvesting of grapes for high-quality wines, free-range hens for eggs, organic treatment for pest control, low sugar content, cholesterol, etc.), additional services such as slaughtering a purchased animal, sorting the produce, a certain type of packaging, etc. Often, the buyer provides a specification of technology and know-how, and/or resources, financing, or services as part of this type of contract. Some of these types of arrangements include, and often (normatively) require, independent third-party certification and auditing (of organic products, origins, etc.) and are essentially Trilateral contracts regulating the role (certification, control, arbitration and etc.) of the "third" party.

Buying and selling between private agents can be done with a spotlight, often oral, contract where a standard resource or thing is paid for and taken (Pay and Carry Deal). Often, however, there is a time period between the transaction (conclusion of a contract), payment and the actual transfer of a given resource, asset or thing - a certain period for delivery of the ordered product, for payment for the purchase, for obtaining a notarial deed, for actual access to purchased property, etc. For a certain type of durable natural and material assets (land, buildings, equipment, etc.), a written, often notarized, contract is also required in order to legally protect (prove) the acquired property or to use this asset for implementation of other contractual relations (for example, use as collateral for a loan, participation in a coalition, subsequent sale, etc.).

In this type of contract, the main risks for the farmer-buyer are from the pre-contractual opportunism of the seller. This is when there is a small number of suppliers (for example, desirable plots of land, pastures, water sources, etc. in the area and even on the farm territory) or a monopoly situation or a strong dependence of the farmer on a certain supplier (irrigation water, electricity, special equipment or technology, etc.) that impose high prices and/or unfavorable terms of trade.

In addition, the buyer-farmer often does not have complete information about the qualities of the acquired thing (due to bounded rationality), and the seller is not interested in revealing its existing shortcomings (due to opportunism). For example, when buying a secondhand tractor, it is difficult to really assess the technical condition and how well it corresponds to the seller's advertisement (defects are usually discovered only after starting to use it); the real yield and productivity of a new variety of seeds is established only when the harvest is obtained, etc. In order to overcome this problem, it is common to practice pre-testing, trial period of use, giving a guarantee, payment in stages, possibility to return in case of dissatisfaction, or choose as partners close and familiar (high trust, good experience from previous transactions), or market agents with an established good reputation (famous brands of equipment, chemicals, etc.). There is also the possibility of post-contractual opportunism if an item (building, facility, machinery, equipment, etc.) is purchased with a commitment to installation, completion or subsequent maintenance. After the sale (payment) is completed, the promise of service is either not kept, or it is done poorly or untimely. Opportunistic behavior of the seller is reduced (self-restricted) with a long-term contract



or a high probability of new purchases or business relations (contracts) between partners in the future.

As a seller, the farmer often faces contractual opportunism in the presence of few buyers or strong unilateral dependence on a particular buyer (food chain, processor, exporter, etc.) that impose low prices, unfavorable terms or "unfair trade practices". Post-contract opportunism is also often observed, resulting in delayed payment or non-payment for the products or services sold. In order to overcome such risk, protective terms are usually practiced (advance payment, cash payment), interlinking of transactions with counter-crediting, supply of materials, resources and services, or close and familiar partners are chosen (high trust, good experience from previous deals), or market agents with an established good reputation, avoiding traders known for unfair or undesirable trading practices. In public contracts for purchase and sale (state reserve, food for schools, the army, hospitals, etc.) there are great opportunities for opportunism both for monopolistic practices of the state agency and for abuses by government officials and suppliers (farmers, middlemen) due to the non-market nature and low transparency ("single" buyer, inflated prices, waste of public funds, illegal commissions, etc.).

A special type of sales contract is related to the trade of intangible assets and intellectual agricultural products such as new knowledge and information, biological means (seeds and planting material of new varieties of plants, etc.), know-how, new technologies and methods, special origins, protected brands, digital products (software, etc.), etc. Property rights to a large part of these "intangible" products and resources are difficult to completely and permanently transfer, as these assets do not wear out with use (only moral obsolescence is possible) and their multiplication is not associated with high costs. Therefore, the seller effectively keeps the product he/she is selling as both parties have the new knowledge after the "deal"<sup>12</sup>. At the same time, it is also possible to easily appropriate (theft) similar products without making a purchase or payment - refusal to purchase after the disclosure of the new knowledge by the seller, easy piracy, imitation, and illegal distribution of innovations, etc. Such "thefts" are very difficult and expensive to prove in court or through another agent (expert, state authority, etc.).

To limit possible opportunism on both sides of the contract and to effectively carry out the purchase and sale transaction, intangible products are usually offered in a "package" with tangible products or services - for example, a new chemicals or biological products plus information on how to use it effectively under the specific conditions of a given farm; new machinery or equipment, plus training of personnel in its operation, etc.). Another approach is to design the innovations in a form that does not allow "uncontrolled" subsequent distribution - hybrid seeds that lose their qualities during reproduction, use of an individual pin code for digital products, the need for additional adaptation to farm conditions of new technologies and production methods, application of blockchain control, use of trade secrets, etc.

There is a "particularity" to this principle type of contract regarding the purchase and sale of a "eternal" and movable natural resource such as water from an external supplier to farmers. Ownership of purchased water is usually lost upon use – for example, water for irrigation and other

---

<sup>12</sup> Called by Arrow (1962) "Information paradox" (Arrow information paradox; Arrow's disclosure paradox).

farm needs is included in the natural cycle after irrigation, and in some cases without even being used. Although maintaining the "purity" of water in agriculture is a serious problem, here it is more correct to talk about the purchase and sale not of a "water resource" but of a "right to use water" or a service "water supply to the farm".

In modern agriculture, the so-called Contract farming and marketing, which are essentially special (often complex) contracts between a farmer and a buyer (processor, food chain, etc.), which before starting the production process, they agree on the terms of production and marketing<sup>13</sup>. They have a number of advantages for farmers in terms of cost and investment savings, transfer of know-how and advanced technology, access to 'free' or low-cost advice, machinery, and credit, guaranteed markets and prices, etc., improving coordination and risk management between contracting parties. Production contracts regulate in detail the conditions of production of a certain product by a farmer with his/her land, with the buyer provided technology, inputs and equipment, and becomes the "owner" of the produced goods. Depending on the economic characteristics of the transaction and the degree of vertical integration, these contracts can also be seen as a "contract for services" by the farmer, and in some cases as a "contract to hire" the farmer and his/her land. Marketing contracts focus solely on the commodity being delivered to the buyer and not on the "production services" provided by the farm.

In contemporary conditions, many of the (formal) purchases and sales in the agrarian sphere are also associated with institutional restrictions and costs - mandatory registrations (tax, notarial, as a farmer or livestock breeder, etc.), obligatory product safety tests (safety, levels of pesticides and nitrates, etc.), mandatory guarantees, the possibility of return, exchange or reimbursement of costs, the need for permits (for the sale of lands and natural resources in protected areas), licensing or certification (trade in chemicals and fertilizers, origins and brand names, agricultural use of sludge from sewage treatment plants, etc.), fixing prices for critical resources (irrigation water), "free" provision of additional services (waste management, ecosystem services, etc.), mandatory sales (for new varieties, know-how, software, etc.), distribution of "quotas or total ban on trade (harmful drugs, cannabis, etc.), rules and restrictions regarding foreign citizens and organizations for certain resources (agricultural lands, underground resources, etc.) etc. Much of this regulation aims to "protect" the rights of buyers, end users, rural residents, etc. and facilitate contractual relations, but also further raise agents' transaction and aggregate costs. Therefore, there is still a big gray sector in the agrarian sphere in terms of buying and selling.

***- Lease (rent) contract of resources or things (items, objects).***

This type of contract regulates the transfer of the right to temporary use of a given resource or item against payment of rent or free of charge<sup>14</sup>. Therefore, it is suitable to manage a large part of farm transactions related to the supply of basic inputs (without labor). In a classic

---

<sup>13</sup> For example, 34.8% of the value of agricultural production in the USA in 2012 was generated by production and marketing contracts, at 11% in 1969. (USDA, 2012). Marketing contracts are more common in crop production, while production contracts are more common in livestock production reaching 96% of chickens in 2012.

<sup>14</sup> Lawyers distinguish between Object Lease Agreement, Land Lease Agreement, Property Lease Agreement, etc.

lease, there is usually some price in money, in kind, another resource, or in some right. "Free rent" also often applies due to the receipt of some other benefit - for example, keeping vacant arable land, pasture, perennials and livestock in "good" condition (some standards for which resource owners are obliged by formal regulations), other economic benefits, such as maintaining or expanding business relationships, helping partners, etc. or other, including altruistic purposes.

The main risks for the farmer in this type of contract are from pre-contractual opportunism (similar to the sales contract) and from using a fixed rent. When the rent is fixed, the lessee fully assumes the risk of losses (or benefits) from fluctuations in productivity and income from the leased resource (item, land, animal). This risk can be shared with the owner by negotiating a share rent or completely eliminated by applying a market rent.

The lease contract also allows for pre- and post-contract opportunism on the part of the tenant. In the first case, he/she does not declare his/her intentions not to use the leased resource (thing) efficiently, but in the second he/she practices it (non-maintenance of the leased buildings and equipment, poor care of the leased animals, improper crop rotation, insufficient compensation of extracted nutrients through fertilization, etc.). Late or non-payment of rent by tenants is also widespread. In order to overcome the risks associated with this contract, close and familiar partners are chosen (high trust, good experience from previous transactions) or market agents with a good reputation, a longer lease term is agreed upon, interlinking of transactions is practiced (simultaneous rental of land and labor, reciprocal trade, etc.), or a permanent transfer of ownership contract is used (purchase-sale, exchange, donation, participation in a cooperative or company). For a large part of intangible and intellectual agrarian property, whose property cannot be permanently transferred, this type of contract is preferred - by purchasing a license for use against a one-time or periodic fee.

In modern conditions, there are many institutional regulations and restrictions related to rental and lease agreements - mandatory written form, obligatory formal registrations, a fixed minimum term for land lease (5 years), obligations and restrictions regarding renting and the way resources and objects are used, a way to extend contractual relations, regulations for the participation of foreign citizens and organizations, etc. The institutional arrangement also guarantees the transfer of "new" rights with the lease agreement - the right to receive public subsidies on the leased agricultural land, permanent crops, animals, etc.

All of these formal rules aim to better guarantee the rights of the parties and facilitate contractual relationships, but are also associated with additional transaction costs for agents. In order to save or minimize the costs of formalizing the contracts (writing, legal consultations, notary and administrative registrations, etc.) and the risk of losing the contractual power (Hold ups), agrarian agents still use informal arrangements regarding basic assets such as land, property, animals, etc. and give preference to a contract for a season or a business year. The latter allows for the negotiation of rent at current prices, rapid optimization of the size (expansion, contraction, dislocation) of the farm under the new conditions, renting of new more productive assets (unexhausted new plots of land, new machinery and equipment, younger animals, etc.) etc.

**- Labor contract.**

This type of contract establishes a right to receive a specified service from a temporary labor force against payment of a wage or salary by the employer. Therefore, it is suitable to manage a large part of farm labor supply transactions. A feature of this type of "service" contract is that one party (the employer) acquires the right to direct, control and fire the other party - i.e. there is a relationship of subordination. This form enables rapid adaptation to the current labor needs of the farm with low transaction costs for both parties - "management by command". Otherwise, either a very comprehensive service contract must be prepared (with the respective rights and obligations of the parties in all possible circumstances during the period of their contractual relationship) or new agreements must be continuously negotiated whenever the conditions and needs of the parties change.

The main risks for the farmer in this type of contract are from pre- and post-contract opportunism. In the first case, the worker may misinform about his/her abilities or intentions in order to get assigned to the desired position. To prevent this, the farmer can request references, require a certain professional experience, select candidates with a certain education or diplomas for an acquired qualification, conduct an interview and/or test to establish the candidate's qualities, etc. In the second case, the worker may not put in the necessary (contracted) effort after being assigned to work. This is facilitated by the fact that constantly controlling workers located in remote and often numerous plots of land or agricultural operations (where timing, quality, complexity, etc. is often crucial) is either too expensive or impossible.

Along with that, in agriculture, the effectiveness of the activity is not always proportional to the quantity and quality of the efforts - positive or negative influence of the natural factor (climate anomalies, biology of plants and animals, etc.). In addition, an important specialist worker may leave at a critical moment for the farm (for example, a machine operator during harvest, a milker before the animals are milked, etc.) because of an offer of better pay from the farmer's competition or for other reasons (change of employment, work abroad, etc.). In order to avoid these forms of opportunism, the permanent employment contract is used, group managers (controllers) are appointed, incentives are created to increase productivity by involvement in the farm management, applying output based compensation, payment of bonuses, social security, special training, additional paid leave, provision of free services, housing, etc.

In modern conditions, there are many institutional regulations, inspections, sanctions and restrictions related to labor contracts - limitation of the number of main labor contracts (max 1 in Bulgaria), mandatory use of written form, obligatory formal registrations, statutory minimum remuneration and maximum duration of the working day and week, necessity from a detailed description of responsibilities and obligations, fixing a term, obligations and restrictions in terms of age (e.g. child labor is prohibited), citizenship (e.g. prohibited employment of illegal immigrants, tourists, etc.), qualification (need for a certificate to practice certain professions (e.g. mechanist, driver, etc.) and overtime work, way of using the workforce and termination of labor relations, mandatory labor safety conditions and standards, need for mandatory (agro-ecology,

animal welfare, etc.) training and certification, accident insurance, social security, guaranteed right to paid leave, holidays, professional development, etc.

In addition, workers receive free legal advice and protection, have the right to participate in trade union organizations, collective (branch) bargaining for wages and working conditions, protest actions and strikes, etc. All these regulations aim to better guarantee the rights of employed workers and employers and facilitate working relations, but they also significantly increase the transaction and overall costs of farmers. Therefore, informal arrangements in labor relations are still widely practiced and there is a large informal sector in the agrarian sphere. In some countries or sectors the gig economy take a considerable portion of all labor contracts.

### *- Service Contracts.*

This type of contract establishes a right to receive a certain service against payment of a price or free of charge. Therefore, it is suitable to manage a large part of the transactions related to the supply of the necessary labor and complex (labor plus know-how, materials, equipment, financing, etc.) services for the farm, and for the marketing of its services and products. In the classic contract for the purchase and sale of a service, there is usually some price in money, in another service, resource, or some right. For example, a bee farmer does the service of installing hives and pollinating an orchard in exchange for the right for his/her bees to collect pollen from fruit trees of the orchard farm.

The service can be material (mechanized, plant protection, transport, advertising, software, etc.) or for the performance of certain work (maintenance of the equipment, veterinary services, agronomic advice, training, security, etc.). In contrast to the labor contract, here the two parties are in an equal position (and not of subordination). This contract enables the farmer entrepreneur to effectively carry out the agricultural operations through external services of ploughing, sowing, spraying, harvesting, etc., without hiring laborers and incurring internal costs for management, control, incentives, training, ensuring full employment, payment of insurance and holidays, taking the risk of someone not coming to work at a critical time, etc. In an extreme case, a farmer entrepreneur can specialize only in the management of an agricultural holding and contract as external services all agrotechnical operations (ploughing, sowing, processing, chemical treatment, harvesting) and sale of the produce.<sup>15</sup>

In many cases, the farmer-buyer is not even able to "manage" the service provider, as in treatment, training, counselling, security, etc. Output based payment can often be applied, which greatly limits opportunistic behavior of supplier. Often, however, the application of time-based or fixed pay is the only possible form. As a rule, a long-term supply contract improves the quality of the provided service - getting to know the specific farm (plots of land, equipment, animals, staff, etc.), willingness to preserve relationships (keeping the business) or renewing the contract ("fear of

---

<sup>15</sup> This example is not hypothetical, since in Japan a large proportion of farm households (rice paddy-field owners) contract out the main or all operations related to rice production to professional farmers.

punishment" by changing the supplier) etc. In all cases, choosing a supplier with a built established good reputation and an established name reduces the risk of opportunism.

Very often in remote rural areas there is a lack of a developed market for agricultural and related services - few in number (monopoly situation) or a complete absence of suppliers of the required quantity, quality and at the right time services for agricultural producers. In these cases, a long-term relationship ("clientalization", contract) is usually developed with a certain supplier of critical services for the farm - veterinary-medical, agricultural technology, etc. These and other similar arrangements for (more) standard goods and services are known as Relation contracts, which are usually informal (and in some cases formal) agreements that are self-sanctioning due to the "repetitive trade" between agents. Here there is a benefit of (self-)restricting opportunism to continue business with a particular agent, as the only "punishment" is the termination of the (mutual) relationship (there is no possibility to dispute through a court or other third party).

For monopolistic and critical services, marginal prices are also fixed by the state authority (electricity, water for farm irrigation, veterinary medical services, soil samples, nitrate tests, notarial and administrative registrations, etc.) or important services are provided free of charge from state organizations (agricultural advice and training system, scientific service, etc.). However, farmers are often in a dependent position and forced to buy at a high ("market", hidden fees and conditions, etc.) price, or not to use some of the services needed for the farm at all. In many cases, to save costs for standard services (transaction, payment of fees and taxes, etc.), informal verbal agreements between private agents are applied. In modern conditions, in addition to supply, some farms also use services in the direction of processing ("e.g. processing agricultural produce into juice, wine, cans, etc.), marketing (promotion or advertising of farm produce, a stand in a food store chain, e-commerce on known platforms, etc.), waste management (utilization of manure, compost, sludge, etc.), etc.

Farmers, in turn, also provide a variety of services to other agents, which may have "private goods" or "public goods" character. Farm services are either a means of adding value (new business, diversification) or facilitating external (marketing, procurement, etc.) relationships, or a way to make productive use of temporarily idle material assets (machinery, etc.) and labor. In some cases, they are an expression of a narrower specialization of the farm (in the supply of services for other farms and buyers) and a more intensive participation in the market of specialized services (ecosystem and other services). In the case of private services, a standard (mechanized service, kneeling of sold animals, picking of fruits and vegetables by buyers, etc.) or special (contract for production, educational visits, scientific experiment, etc.) service contract is employed with a certain price, "interlinking" with other services or products, or free of charge (for example, a large livestock producer provides free manure and transport to the farm of a crop producer). In services with a public contract (protected areas, reserves, national parks, etc.), there are opportunities for opportunism both for monopolistic relations on the part of the state agency (dependence on a "single" buyer) and for misuse of public funds by state agencies employees and suppliers-farmers (inflated prices, poor quality or fictitious services, illegal commissions, etc.).

Modern agriculture is associated with many positive and negative externalities for which there is no market, and the provision of "ecosystem services" is an important part of the private, collective or public governance of farming and agrarian activity (Bachev, 2023). In some cases, the preservation and improvement of the natural environment is managed as a voluntary side-activity of the (green, eco, etc.) farmer, as a result of his/her conviction or joint initiative with other interested agents. Such positive services (beautiful landscape, clean waters, rich biodiversity, etc.) are governed by the farmer's "good will" or informal norms and rules, and their provision does not require a "contract" for donation.

On the other hand, the negative "services" of farmers with character of "private bads" or "public bads" (such as soil and water pollution, etc.) are unwanted. With strong interest between parties, the efficient provision of a particular ecosystem service can be governed through a Private (individual and collective<sup>16</sup>) ecosystem service contract – for example, a drinking or mineral water supply company pays farmers in catchment areas not to pollute (use) with chemical fertilizers and pesticides, a tourist site agrees with a farmer not to pollute the air or make noise, etc. In contemporary conditions, the "environmentally friendly" behavior of farmers is also increasingly governed through external pressure from the public, interest groups, affected agents, etc., as well as imposed as a "contractual term" by large suppliers, processors, food chains and final users.

Often, however, the effective provision of agro-ecosystem services requires external (state, international, non-governmental organization, etc.) intervention through a Public Contract for Ecosystem Service for public or private financing (payment) against the implementation of certain eco-standards, compliance with certain eco-behavior and the implementation of active eco-actions by farmers. In modern conditions, many of the standards for protecting the natural environment and biodiversity, combating climate change, etc. are institutionally defined and binding on agents. Public contracts to support farmers (like direct subsidies from EU) also include as mandatory conditions "the supply of certain ecosystem services" - compliance with certain minimum eco-standards (cross-compliance), maintenance of agricultural lands in "good agronomic condition" (even if not cultivated for a long time), biodiversity conservation, respecting animal welfare requirements, etc.

#### ***- Loan contract.***

This type of contract arranges a temporary transfer of title to a specified amount of money (cash loan) or products (loan in kind) for payment or not of specified price (interest). Therefore, it is suitable to manage a large part of the transactions related to the supply of the necessary finances, raw inputs and materials of the farm, and for the marketing of its products and services. Unlike a lease, the debtor is not obligated to return the identical money or products that he/she borrowed, but the same amount of borrowed assets. Most often, this transaction is related to the payment of

---

<sup>16</sup> Many of the ecosystem services require collective actions of farms in a given area, watershed, agro-ecosystem, etc. to achieve a positive effect.

some interest over the amount of the loan, but for various reasons (other benefits, regulations, ideology, etc.) an interest-free loan is also practiced.

In modern conditions, the most common is the contract for a money loan from a commercial bank, private person or company. Due to the great "flexibility" of money, control over its use by the creditor is very difficult (including non-return of the loan). In order to avoid opportunism of the debtor, a strict selection of the applicant is applied (studying the credit history, documents on the property status, requiring references, etc.), a serious collateral, guarantees and/or counter-financing is required. This makes the use of this type of contract significantly more expensive for the farmer. There are also many examples of pre-contractual opportunism by creditors of various types, resulting in undisclosed fees and terms leading to increasing indebtedness and bankruptcies for many farmers.

In modern conditions, other more effective forms of lending in a package with the sale of long-term assets (leasing), short-term assets (instalment payment or deferred payment), interlinked credit against production and/or purchase of farm production, etc. Along with this, the forms of public intervention in the financing of agricultural activity are expanding, including by offering a direct (public agency, program, etc.) or indirect (commercial banks, farmers' organizations, etc.) preferential or interest-free credit for certain activities (modernization of farms, diversification of activity, investments in perennial crops, etc.), types of farmers (small, semi-market, in mountainous and disadvantaged areas, organized, etc.), groups of farmers (young, willing to start a farm, etc.) etc.

#### ***- Insurance contract.***

This type of contract arranges for the transfer of the assumption of some risk during a certain period of time in return for payment of a certain price. Upon the occurrence of events covered by the contract, the insurer pays an insurance premium according to the contract conditions. This contract is suitable to govern part of the farm transactions related to risk management of accidental events, accidents, natural disasters, etc. The risks for which protections are offered in the agricultural market are for various types of damage to property, crops, animals and people caused by natural (hail, frost, storm, flood, fire, etc.), economic (accident), health (reduced working capacity, illness, death), or social factors (damages, theft, etc.).

Usually, opportunism can be manifested by the insured farmer before signing the contract (failure to disclose the real information about the possible risks) or during its operation (failure to take measures to reduce the damage when the event occurs; knowingly causing the damage to obtain insurance bonus). This significantly increases insurance prices and limits their use in the agricultural sector. For their part, farmers often "discover" the pre-contractual opportunism of the insurers only after the occurrence of the event, when they understand that not all the details of the insurance (protected risks, degree of damage coverage, method of ascertaining the damage, payments, hidden conditions, etc.) were well explained before the contract was signed. This also raises the transaction and overall costs of farmers and leads to the limitation of this type of contract.



The modern insurance industry offers a wide variety of coverage for different damages, including adaptation to the specific needs of large and (viable) farms. Certain insurances are mandatory (property, plantations, harvest, etc.) when participating in certain public programs and signing contracts for public assistance by farmers. However, for many of the significant risks of farms, there are not offered, can be found, and purchased insurance at all, such as the risk of lack of market demand, price fluctuations, economic crisis, possible opportunism of the contractual partner, change of trade regime, etc. Therefore, agrarian agents have to design and use other contractual and private forms with which to (more) effectively manage the risks in their economic relationships and activity (Bachev, 2013).

***- Contract for coalition and collective actions.***

This type of contract regulates the rights and obligations in the coordination of actions and/or resources of two or more agents<sup>17</sup>. Therefore, it is suitable to manage much of the transactions related to the pooling of resources and activities, and the joint actions of agrarian agents (collective production, procurement, processing, marketing, lobbying, etc.). It is possible to establish various formal and informal temporary, strategic or permanent coalitions of agrarian agents - for resource management (land, water, ecosystems, etc.), for economic activity (production, processing and trade of farm produce, generation of bio, solar, etc. energy, waste utilization, collective bargaining, etc.), for environmental, innovation, educational, etc. activity in the common interest and for protection of interests of the members. The rules for formation of the different types of formal coalitions are determined by different laws – Commercial Law, Law on Cooperatives, Law on Non-profit Legal Entities, etc.

The members of the coalition exchange with each other certain rights related to the ownership, control and disposal of certain resources, the management of the coalition, the distribution of income and other benefits from the activity, the period of coalition, the ways of expanding the coalition and termination of membership, etc. Depending on the objectives, different types of coalitions can be created – informal partnerships (pooling of resources and/or activity), cooperatives (not for profit), companies (for profit), associations (for collective action), etc. Traditional (Neoclassical) Economics studies this type of contract-organization as a perfectly functioning "black box" that adapts its behavior depending on the movement of market prices. The New Institutional Economics considers the different types of organizations of this type of contract as alternative structures in the general system of agrarian governance, and evaluates their comparative efficiency and costs to agents. In doing so, it studies the farm and other agrarian organizations as a complex network of internal and external contracts (Nexus of contracts), through which agrarian agents optimize their behavior, activity and relationships in the specific socio-economic, institutional and natural environment.

---

<sup>17</sup> With the partnership agreement, two or more persons agree to combine their activities to achieve a common business goal (ZZD, 2021).

In coalition and joint action contracts, there is most often a risk of post-contract opportunism, when a member(s) does not fulfill its obligations to the common organization or misuses it for its own private interest. To avoid this risk, high-trust partners are usually selected (family members, close friends, etc.), the number of coalition members is limited (mutual control of opportunism becomes possible), participation is required in the equity and the risk of the organization, etc. In coalitions with open membership (cooperatives, companies), effective mechanisms are designed for governance (management structure), stimulation of participants (preferences to members working in the coalition), and for direct participation of members in the management and control of the coalition. However, once the organization is established, it has a "life of its own" and often moves away from the interests and control of ordinary members (separation of ownership from management). Furthermore, some of the rules of the coalitions for collective actions in agriculture (professional standards, norms and "codes" of conduct, etc.) are advisory or "voluntary". This is related to the low efficiency of such organizations in terms of nature protection, ecological, etc. activity that requires certain "collective actions" to realize the desired positive effect.

In large coalitions with open membership, pre-contractual "free-riding" opportunism is also widespread. Since the formation and development of such coalitions is associated with significant costs (for initiation, establishment, registration, organizational enhancement, etc.) there are no incentives to participate in this process. However, if the organization turns out to be successful, then those willing to join and enjoy the benefits of the built coalition will increase significantly. In addition, these organizations are also associated with problems related to "separation of ownership from management", which is why there are very few examples of such business organizations in the agrarian sphere (numerous cooperatives and agro-companies, companies with market-traded shares, etc.).

In the last three decades, many efforts have been made to support (by state, international, non-governmental and private organizations) the initiation and development of collective organizations of agricultural producers of different types in Bulgaria - sectoral, branch, regional, etc. organizations, credit, marketing, etc. cooperatives, producer groups, etc. Un to date, however, there are not many good examples of effective and sustainable organizations in the agrarian sphere of the country.

## **4. The process of contracting and implementation of agrarian contracts**

### *4.1. Stages of the contract process*

The process of negotiation and implementation of agreements is an important element of the economic analysis of agrarian contracts. There is some potential for agents to obtain mutual benefits from agreements, with the various stages of the contracting process associated with significant transaction and overall costs for each party. In the specific socio-economic, institutional and natural conditions, different types of contracts provide different opportunities for agrarian agents to optimize the benefits and costs of relationships with suppliers, buyers, interested agents, public agencies, etc. The choice of the (most) efficient form of contract has an "additional" economic value for agents. Therefore, identifying the absolute and comparative advantages and disadvantages of different contract types, the associated transaction costs in the process of contracting and enforcing the contracted terms, and the critical factors of managerial choice are a central point of economic study.

The governance of contractual relationship of a farm usually includes the following elements: identifying needs for contractual relations, choosing a contractual form, finding a suitable partner, negotiating terms of exchange, preparing and signing a contract, executing and controlling the contract, adaptation (renegotiation) in the process of implementation of the contract, disputing the clauses of the contract, conclusion or termination of the contract, resumption of the contract.

First, the farm manager is to identify his/her needs for relationships with other agents - suppliers of natural resources, labor, finance, buyers of produce, etc. They derive from the plans and analyzes for the development of the farm and its individual functional areas (production, financing, marketing, etc.), as well as from the operational needs of the business. For example, in the process of strategic planning, it is determined that additional land will be needed to expand the farm. The evaluation of forms of land supply establishes that long-term lease will be most effective for the development of the given farm. Therefore, the manager is faced with the task of finding a suitable landowner with whom to negotiate the lease terms. Also, rising fuel prices often necessitate finding additional external financing, which requires expanding contractual relationships. It becomes imperative to "supply" the necessary funds through a loan from a private person, company, bank, cooperative, or state program; finding a subsidizing agent, co-investor, etc. Depending on the specific conditions, any of these or a combination of several of these negotiation alternatives may prove effective.

In the second place, when the needs for a certain type of relationship with other agents are established (for example, the need for external supply of materials, feed, etc.), the most effective form for their organization is to be determined. Most often, the farmer can choose between several relationship alternatives – stoplight free market exchange, long-term contract, cooperative, etc. For example, a farmer's need for animal feed can be satisfied by a short-term contract to purchase from the open market, a long-term contract to supply from a specific supplier,

through a contract to rent agricultural land and workers for internal feed production, participation in a cooperative for joint production or supply of fodder etc. Usually, alternative forms have different advantages and disadvantages – they give different benefits to the farm, have different organization costs, provide different adaptability, are associated with different degrees of risk, etc. For example, the market realization of the produce (market, exchange) is associated with low costs of negotiation and gives freedom to the farmer to replace the unwanted partner or market. This form, however, is often associated with a high risk of large price fluctuations, lack of demand, and income volatility. Therefore, there is the task of evaluating the practically possible forms of contractual relations and selecting the most effective form for the farm.

Third, once the contract form has been chosen, there is the daunting task of finding a suitable exchange partner. Usually, different agents have unequal qualities – different managerial and contractual skills, unequal ability to fulfill contractual obligations, differing readiness for mutually beneficial cooperation, unequal reputation, etc. The "personality" of the partner is particularly important for long-term relationships, which are most often associated with great uncertainty, the need for adaptation, conflict resolutions, and the need for cooperation between the parties. For example, when concluding a permanent employment contract, a worker or specialist with a "good name" is preferred; in a sales contract, an incorrect buyer with a "bad reputation" is avoided; association is made with close relatives and friends, etc. Searching for and finding a good contracting partner(s) is extremely important and takes up a significant amount of a manager's time.

Fourth, once a potential partner(s) is found, the terms of the exchange are to be negotiated in detail - prices, timing, payment methods, penalties, etc. This stage is extremely important as it largely determines the effectiveness of contractual relations as a whole. For example, if the lease of land (property) does not specify the term or conditions of termination, this can lead to large losses of long-term investments (perennial crops, soil fertility improvements, etc.) of the farm. Also, if the implementation of the contract is associated with significant additional costs (manual or green picking, sorting, special packaging), and no corresponding compensations have been agreed, this can have a significant impact on efficiency.

Fifth, contract preparation and signing is an important element of the management of contractual relationship. Many of the farm's contractual relations do not require a written contract - purchase of materials and fuels, seasonal rental of land and hiring workers, sale of produce on the market, etc. When the terms of the contract are simple and clear, its premature termination is not associated with significant costs, and the partners have a high level of trust, written form is only associated with additional costs. However, oral agreements have serious drawbacks (different subsequent interpretation by the parties, possibility of non-fulfillment of the terms, impossibility of contesting before a third party), which often make a written contract necessary. In the case of some forms of contracts (purchase and sale of land and immovable property, founding contract of a company or cooperative, employment contract, long-term lease of land), written form and notarial and/or administrative registration are mandatory.

The written contract is particularly important for the more complex and long-term relationships of farms with other agents. It must reflect precisely (unequivocally) all the agreed rights and obligations of each of the parties - legal representative, object matter, terms, payments, dispute, method of completion or termination. This supports the implementation and control of agreements, makes it possible to challenge rights before and sanction them by a third party (independent expertise, local and state administration, court, police). The expenses incurred during this stage are justified, as the risk is eliminated and the effectiveness of contractual relations is guaranteed (exact fulfillment of terms, protection of investments, precise control, compensations in case of non-performance). Due to the importance of the good drafting of the contract and the need to comply with a number of regulatory requirements, it is often necessary to use "expensive" consultation with more experienced farmers, business experts, lawyers, etc.

Sixth, the practical implementation and control of the contracts is a very important part, which is often associated with significant costs of the farms - for the organization of the fulfillment of the assumed obligations, for the control of (non)fulfillment of the partner's obligations, etc. For example, for the majority of Bulgarian farm managers, the control of the hired workforce and the quality performance of the contracted services (irrigation, processing, harvesting) takes up a large part of their total efforts and time.

Seventh, in the process of executing the contracts, significant changes may occur (change in prices, crop failure, reorganization or liquidation of one of the parties), which will require a renegotiation of the contracted arrangements. With the good will of both parties, adaptation to the new conditions can be achieved easily and inexpensively. Situations are not rare, however, when one of the parties additionally benefits from the new situation and does not wish to change the previously made agreements.

Eighth, very often the contractual terms are not interpreted uniformly by the parties and/or are not applied according to the agreement. This may be the result of the lack of a written contract, the poor (incomplete, ambiguous, general) wording of the contract clauses, or the reluctance (impossibility) of one of the partners to fulfill the assumed obligations. With the good will (or interest) of the parties, conflicts arising in the process of contract execution can be easily resolved by the partners. Very often, however, it is necessary to challenge the rights of one of the parties to the contract before a third party - an independent expert, arbitration, court, state authority, etc. The resolution of some of the disputes may be associated with significant costs (for expertise, lawyers, legal fees; financial or production losses) and problems with the implementation of the agreements (violation of deadlines, reluctance to cooperate, premature termination). To increase the effectiveness of more complex contractual relations, the parties have to invest time for a more precise formulation of the clauses of the contract when drafting it, and also include protective mechanisms and "economic hostages" (advance payment, joint financing of risky inputs, output-based payment of hired labor) to stimulate cooperation of the partner.

Ninth, each contract is to regulate a way of termination or continuation by which the parties terminate or resume their contractual relations (protocol, period of validity, payments, etc.). A good closing of the contracts is extremely important, as it brings the started work to completion

(for example, securing a bank loan and full repayment of the loan), and releases the partners from all assumed obligations. Along with this, it creates a good reputation of the parties as a reliable partner, which facilitates future contractual relations between them and with third parties. Every contract must also provide for the conditions for terminating the agreement - notice period, acceptance, compensations, etc. In modern conditions, many contracts have to be terminated prematurely due to changes in the needs of the parties, impossibility of implementation, evolution of socio-economic, institutional, natural, etc. conditions etc. This can be associated with significant costs (for lawsuits, penalties, loss of production and income) if no special safeguard clauses are provided in the contract.

#### *4.2. Critical dimensions of agrarian transactions*

Economic contracts are a means of coordination and governing of transactions between farm entrepreneurs and owners of natural, labor, financial, etc. resources, the sellers of agricultural machinery, materials, services, etc., and the buyers of farm produce and services. "Rational" agrarian agents (should) design or select such forms of management of their relationships with other agents and organization of activity that minimize their transaction costs and maximize transaction benefits (Bachev, 2010a,b). The form that minimizes transaction and overall costs and maximizes transaction and overall benefits in the contracting process will be most efficient and sustainable.

Sometimes transaction costs are easily determined because they are subject to independent accounting or can be identified without much effort. For example, the costs of registration and notarizations, agricultural market information, advertising, commissions and fees for the sale of the product on the wholesale market or middleman, membership fees in professional organizations, litigation, protection of property, bribes, losses from inefficient transactions (theft, fraud, failed production). However, a large part of transaction costs in the agrarian sphere is difficult (too expensive) or impossible to separate and account for. This group includes the costs of finding a good partner, negotiating, monitoring the implementation of agreements, developing and operating coalitions, interlinked transactions, unrealized or failed deals, etc. It is often difficult to separate transactional from traditional production costs – for example, while working, the farmer also controls the labor force employed; during the transportation of the raw materials or the produce, he/she negotiates the marketing of the produce, etc.

Furthermore, an component comparison of transaction costs does not always provide insight into contract efficiency, as often an alternative form lowers one type but increases another type of transaction cost. For example, when transitioning from an external (market service or product) to an integrated form (hire of labor, land, etc.), there is a reduction of the costs of information (overcoming uncertainty), renegotiation and ongoing adaptation at any change in terms of exchange, protection of investment from external opportunism, etc. At the same time, the costs of internal management - decision-making, directing, controlling and stimulating the hired labor, etc. are increasing. In addition, part of the transactions are governed not by "pure" but by

complex or interlinked contractual forms - for example, supply of material assets "in a package" with supply of know-how and services; common supply of tangible assets and credit; crediting of production against marketing of produce, etc.

Most often, it is necessary to use another approach to evaluate the comparative effectiveness of the contracting process and the different contractual forms - by means of Discrete Structural Analysis. Since it is too difficult or impossible to determine the absolute transaction costs of the individual forms, the analysis is directed towards an assessment of the comparative costs of the possible alternatives. The quantitative assessment approach is replaced by qualitative (structural) analysis and indirect assessment of transaction costs. In fact, it is not the absolute transaction costs in the various forms that are of economic interest, but the contract with the lowest comparative costs for a given type of transaction (Williamson, 2005).

The "critical dimensions" of transactions, or the factors that determine the variation of transaction costs in the specific economic, institutional and natural environment, are identified as: frequency of transactions with the same partner; uncertainty surrounding transactions; specificity of assets for supporting a certain transaction; and appropriability of transaction rights<sup>18</sup>. When the recurrence of transactions between the same partners is high, then the parties have a common interest to preserve and reduce the costs of the relationship (avoiding opportunism, building reputation, introducing incentive and adaptation mechanisms, forms of dispute resolution, etc.). Here, maintaining the relationship with the designated partner/s and developing a special contractual form have great economic value. That is why the parties refrain from opportunism, the detection of which is "punished" by replacing the partner with its competitors (loss of future business). Furthermore, the cost of elaboration of a special private contract form to facilitate bilateral or multilateral exchange can be effectively recovered through frequent exchanges. For example, the sale of milk is not negotiated "after each milking", but a long-term purchase contract is signed; the payment of service is not negotiated "for every accounting" of the farming activity, but an accountant is hired on a permanent basis; participation in a supply or marketing cooperative is practiced to realize economies of scale or scale in repeat transactions, etc. When transactions are occasional (single), then the possibility of opportunistic behavior is high, since cheating cannot be easily punished (reputation with the designated partner is not important).

When the uncertainty associated with transactions increases, the costs of their implementation and protection increase (to overcome the information deficit, protect against risk, etc.). Bounded rationality is critical, opportunism is possible, and agents prefer such contractual forms that reduce transactional uncertainty. While some of the risk can be reduced or eliminated through production management or through a market form (buying insurance), most of the transactional risk requires the use of special private forms – trading with origins, providing guarantees, using equity or performance-based payment, requiring an economic hostage (for example, a mandatory collateral when providing credit), participation in a supply or marketing cooperative, complete integration of transactions.

---

<sup>18</sup> The first three factors were determined by Williamson (2005), the fourth by Bachev and Labonne (2000).

When transactions with a given partner are incidental, not associated with specific investments and the private appropriability of rights is high, then the most effective form of contract is an impersonal market exchange – a standard contract for the purchase and sale of goods, land, property, services, etc.

Transaction costs become particularly large when specific assets must be committed to the relationship with a particular partner<sup>19</sup>. In this case, it is not possible to change the transaction partner (alternative use of the assets) without a significant loss of the value of the investments. Specific (dependent) investments are "buried" in the relationship with a certain buyer or seller, and cannot be recovered (rented) through impersonal market transactions ("the personality of the partner" is of decisive importance). If the transaction does not take place, prematurely terminates (before the end of the effective life of the investments) or less favorable terms are renegotiated (after the expiration of the contract and before the complete depreciation of the assets), a cost-free alternative use of the specific assets is impossible (loss of value). For example, investments in organic milk production are highly specific to transactions with a single organic milk processor in the country, and cannot be effectively managed through a spotlight market contract. Therefore, specific investments must be protected by a special form such as a long-term or interlinked contract, with the acceptance of a pledge, joint investment, partial or full integration.

Even the cases when before or during the negotiation process there was a situation of free competition, multiple suppliers and the possibility of a costless change of the partner ("universality" of investments), after signing the contract, during its implementation (making investments to maintain relations with a certain partner) and resumption, there is a situation of "bilateral exchange" - the assets are in a situation of high specificity. The process of negotiation and implementation of contracts is associated with the Fundamental Transformation, as a result of which assets are locked in a relationship with a particular agent (Williamson, 2005).

With a high symmetrical (capacity, product, timing, territorial, etc.) dependence of the partners' assets ("regime of a bilateral trade"), there are strong incentives on both sides to develop a special private form. In case of high unilateral (asymmetric) dependency, however, the vulnerable party (facing a mini- or full monopoly) must protect the investment from possible opportunism (behavioral uncertainty or "certainty") through transaction integration (internal organization, co-ownership, cooperation) or an interlinked contract, exchanging an economic hostage, developing a coalition to oppose asymmetric dependency (price bargaining association, lobbying for government regulation, etc.).

Transactions become particularly difficult when appropriability of rights to a product, service or resource is low. Most intellectual products in agriculture have a "natural" weak appropriability, such as: agricultural market information, agrometeorological forecast, new technologies and varieties, etc. All products and activities with significant positive or negative externalities could be included in this group. For example, combating hail clouds or locust infestations is of low appropriability to the provider of that service, because whether they pay or

---

<sup>19</sup> Specificity is not a technological but an economic characteristic of investments. Depending on the specific socio-economic conditions, the same assets may have different degrees of specificity.



not, all farmers in the area consume the benefit of the service. Investment in the creation of new technology has low appropriability because it can be acquired with a one-time purchase or freely provided by a neighbor, a friend at a research institute, or find cheaply on the black market, etc.

For products with low appropriability of rights, the possibility of unwanted market and private exchange is high, and the costs of protection (safeguarding, detection of fraud, disputing, etc.) of private rights and investments are extremely high. Due to bounded rationality, the costs of protecting, ascertaining, proving, and enforcing by a third party (court) of the unwanted exchange are very high. For low-appropriable transactions, costs and benefits are independent for individual participants. Therefore, agents will either overproduce (negative externalities) or underorganize such activities (positive externalities) if they are not governed by an efficient private or hybrid contractual form - cooperative, strategic alliance, long-term contract, trade secret, public support, etc.

Therefore, the effective potential of alternative contractual forms is to be assessed: to reduce agents' bounded rationality and transactional uncertainty; to appropriate and protect absolute and contractual rights (and related private benefits and investments) from possible opportunism; to recover the one-time/long-term costs associated with contracts through high repeatability of transactions; to exploit economies of scale and scope of specific capital etc.

Individual contract forms have different comparative advantages and disadvantages to maximize benefits and minimize transaction costs with specific critical dimensions. In general, interfarm/firm integration is advantageous for managing transactions with high uncertainty and high asset specificity (dependency), as it lowers bounded rationality and protects investment from external opportunism. Conversely, transactions with high certainty (bounded rationality does not matter) and asset universality (opportunism cannot occur because the transaction can be done with another partner without additional costs) can be governed through the free market (spotlight or standard contract), without incurring the costs of developing a special contract form.

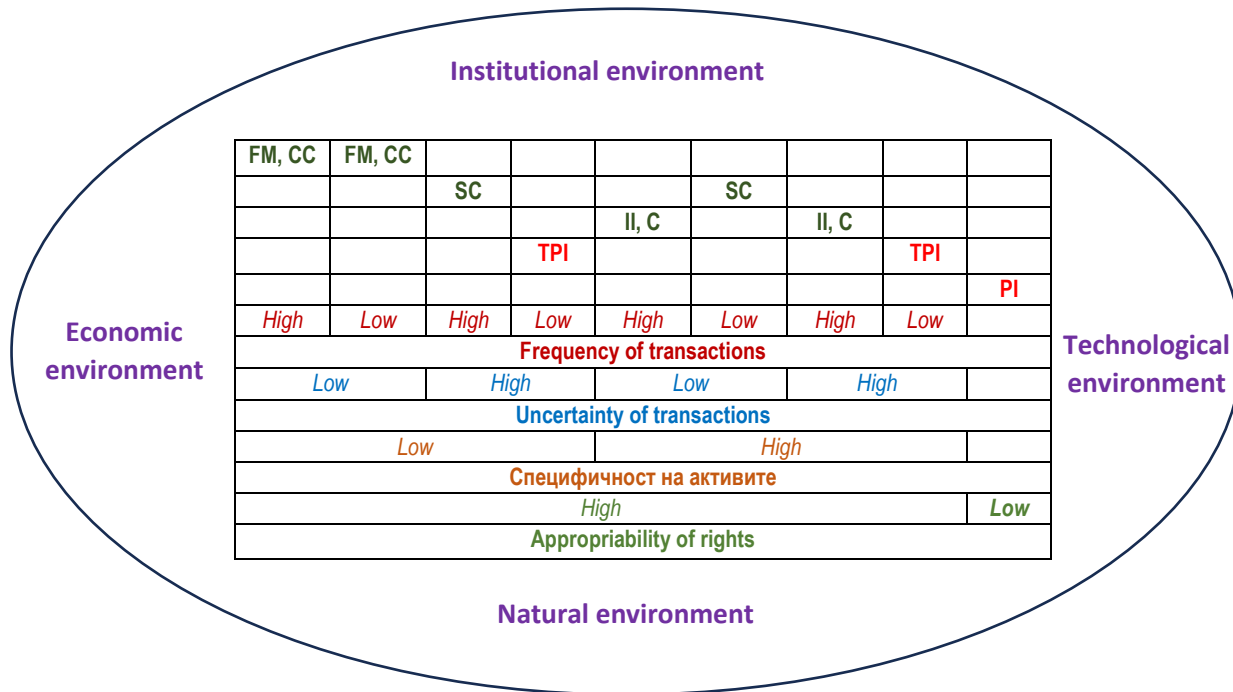
A special contractual form is effective only for highly frequent transactions between the same partners, since single (occasional) transactions do not provide the possibility to recover ("pay back") the investments for the elaboration of a special private governance (mechanisms for coordination, stimulation, resolution of disputes; formal registration, etc.). Finally, market and special contract forms are suitable for transactions with high appropriability because it is possible to fully recover the investments through exchange. For transactions with low appropriability, private rights to resources cannot be protected (unwanted exchange) or can be enforced with extremely high costs. Therefore, for transactions with similar characteristics, either hybrid (mixed public-private, quasi-public) or fully public forms of governance are required - public contract, public order or public provision.

#### *4.3. Effective forms of contractual choice*

Since transactions have different critical characteristics and governance (contractual) forms have different comparative advantages, "transactions (which differ in their attributes)" must

be "aligned with governing structures (which differ in terms of costs and competence) in a discriminating (mainly transaction cost economizing) way" (Williamson, 2005). In the specific socio-economic, institutional, technological and natural environment in which the agents operate, depending on the combination of the specific characteristics of each individual (or class) transactions, different most effective forms of contract governance will exist (Figure 3).

**Figure 3. Principal forms\* for governing agrarian transactions**



\*Free market (FM); Classic Contract (CC); Special contract (SC); Internal integration (II); Coalition (C); (Necessity of) Third Party Intervention (TPI); (Need for) Public Intervention (PI)

Source: the author

Agrarian transactions with good appropriability of rights, high certainty and universal character of investments (the partner can be changed at any time without significant costs) can be effectively carried out in the free market through spotlight or classic contracts. Here, the organization of transactions with a special contractual form or inside the farm would only be associated with additional costs without leading to any transaction benefits. Recurring transactions with low asset specificity and high uncertainty and appropriability can be effectively governed through a special contract. The Relational contract for management is used when the detailed terms of the transaction are not known in advance at the starting point (high uncertainty) and the framework (mutual expectations) is negotiated instead of a detailed specification of obligations. Partners are (self) restricted by opportunism and are motivated to resolve emerging difficulties and continue relationships (situation of frequent bilateral trade). In addition, there is not much risk, since the investments can be easily and costlessly redirected to another use or users (no specific

assets). The special contract form is also effective for occasional transactions with low uncertainty, high specificity, and assignability. Here, dependent investments can be protected through the contractual clauses, as the respective obligations of the partners are easily defined and enforced under all possible circumstances (lack of uncertainty). In this case, the rare nature of the transactions does not justify internalization within the farm.

Transactions with high frequency, uncertainty, asset specificity/dependency, and appropriability must be organized in the farm (an internal ownership-based organization). For example, managerial and technological knowledge (knowledge of animals, qualities of arable land) are often highly specific to a given farm and their supply is managed through a permanent employment contract combined with property rights (in the product, assets). Long-term investments in land is to be made on own/or long-term leased land, not seasonally leased (high specificity in terms of location and product). All "critical" material assets for the farm are internally organized - production of fodder for the animals, basic machines, supply of water for irrigation, etc. While universal assets can be financed efficiently through a market form (bank credit), highly specific investments are made only through internal financing (equity, sale of shares, joint venture). If the specific and specialized capital cannot be effectively organized inside the farm (economies of scale or scope realized, financing realized), then it is necessary to use an effective external form/s of governance - group farm, joint ownership, interlinked organization, cooperation, lobbying for public intervention.

If there is a high interdependence of assets (capacity, technology, delivery time, location, origin/brand) with a supply chain and/or food/processing partner, then it is not difficult to govern transactions through the contractual form (strong mutual interests in cooperation and restrain opportunism). In Bulgaria, for example, efficient delivery/supply contracts between farms and processors are widely used in dairy, meat, wine and organic production (symmetrical dependence). Very often, farmers face unilateral dependency and need an effective (property-based) organization to protect their interests. The transaction costs of forming and maintaining such a collective organization are usually high (large coalition, diverging interests of members, free-riding opportunism) and it is either unsustainable or does not evolve at all. This creates serious problems for the efficiency and sustainability of individual farms - missing markets, monopoly/semi-monopoly situation, impossibility to induce public intervention.

Serious transaction problems arise when the asset specificity condition coincides with high uncertainty, low frequency, and good appropriability. Here, the development of a special governance structure for a private transaction is unjustified, the specific investments are not made, and the activity is not carried out at an efficient scale (market failure and private contract failure). Similar difficulties are encountered for infrequent transactions with high uncertainty and appropriability. In all these cases, the intervention of a third party (private, public, non-governmental organization, etc.) is necessary for assistance, arbitration and regulation with a view to making transactions more efficient or possible at all. A special trilateral form, such as the Neoclassical contract, has also been invented, which regulates the participation of the third party and governs transactions with high uncertainty and asset specificity and low frequency. The

unprecedented development of special origins, organic farming and the fair-trade system are good examples in this regard. There is a growing consumer demand (premium) for organic, original and "fairly" produced and traded products. However, their procurement cannot take place until effective trilateral governance including independent certification and control is established.

When the appropriability associated with the transactions or activity is low, there is no pure market or contractual form to effectively protect and carry out the activity. Respecting the rights of others (avoiding unwanted exchange) or giving additional rights to others can be governed by the goodwill or charity of individual agents and NGOs. For example, diverse voluntary eco-initiatives develop, driven by farmers' eco-production preferences, competition or in response to public pressure for good eco-management. Voluntary initiatives, however, rarely satisfy total social demand, especially when they require significant costs. Some private forms can also be used provided there is a high frequency and interdependence of assets such as: oral agreements, interlinked organization, bilateral or collective agreements, cooperatives with closed membership, codes of professional conduct, associations, or internal integration.

However, the emergence of special (private) multimember organizations to solve the problem of low appropriability (and satisfy all public demand) is very slow and expensive, and they are unsustainable in the long run. The intervention of public as a third party is needed to make such activity possible or more effective - public organization, public contract, mandatory fees, introduction of new property rights, etc. For example, the provision of ecosystem services by farmers cannot be governed through private contracts with individual users due to low appropriability, high uncertainty and the infrequent character of transactions (high costs of negotiation, contract writing, securing payment by potential users, disputing, etc.). The supply of eco-services is very expensive (production and organizational costs) and can hardly be carried out on the basis of voluntary activity. Financially compensating farmers from willing consumers through a purely market-based form of buying and selling (fee, premium) is also inefficient due to high information asymmetry and huge enforcement costs. A trilateral form with direct public participation makes these transactions efficient - on behalf of the users, a state agency negotiates with farmers a public contract for ecosystem services, coordinates the activities of the various agents, provides public payment for the service and monitors the fulfillment of the contracted obligations.

## **5. Contractual order and improvement of contractual relations in agriculture**

### *5.1. Results of contracting process*

An important element of the economic analysis is the identification of the dominant structure and factors of the contracts used in general, and in individual sub-sectors of agricultural production, in different regions of the country, types of farming, etc. It is the specific end result of the contracting process between agrarian agents and agrarian governance as a whole, and shows the state and development of market relations, the spread and variety of contractual forms, and the degree of vertical and horizontal integration in the agrarian and related sectors. This analysis gives a complete picture of how the agrarian sphere is governed and of the existing market, contractual, private, collective and public order in the sector. It also allows to assess the potential, effectiveness, and limitations for the development of market and contractual relations in agriculture; the specification of critical factors that facilitate or deter development and expansion of agrarian contracts; and the assessment of the state, dynamics and prospects of effective and sustainable development of the different types of farms, the collective forms "outside the farm gates", and agriculture in general. In addition, a comparative analysis with similar studies in the past, say in a country like Bulgaria (Bachev and Terziev, 2002a,b,c), gives an opportunity to assess how the contractual structure and agrarian governance develops in the conditions of European integration and EU CAP implementation.

The main types of contracts used by Bulgarian farms in the supply of the necessary assets and services and in the marketing of the produce and services, identified in the literature and with in-depth interviews with farm managers, are summarized in Figure 4.

**Figure 4. Main types of contracts used by Bulgarian farms in the supply of assets and services and in the marketing of products and services**

Functional area of the farm management	Major contract forms			
	<i>Market contract</i>	<i>Special contract</i>	<i>Coalition contract</i>	<i>Public contract</i>
Supply of land and other natural resources	Purchase Short term rental	Long-term lease with fixed rent Long-term lease with sharecropping Long-term lease with market rent	Cooperation Partnership	Lease of state lands Rental of reservoirs and irrigation systems
Labor supply	Daily hire Seasonal hire	Permanent employment contract with fixed remuneration Permanent employment contract with output-based remuneration	Partnership Cooperation	
Supply of short-term tangible assets	Purchase by spotlight contract Standard contract	Long-term supply contract Supply contract in a package with credit, services, and/or purchase of farm produce	Cooperation	
Supply of long-term tangible assets	Purchase by spotlight contract Standard contract	Long-term rental agreement Purchase contract in a package with crediting (leasing) and/or services (maintenance)	Partnership Cooperation	Lease of state property Rental of irrigation systems
Supply of services	Purchase by spotlight contract Standard contract	Long-term supply contract A supply contract in a package with other services, products or credit	Partnership Cooperation	Information and advice in agriculture Training
Supply of innovations and know-how	Purchase by spotlight contract Standard contract  Free consultations in the advisory system	Long-term supply contract Contract for supply in a package with material assets and/or credit	Cooperation	Scientific products and innovations
Financing	A bank loan Loan from a private person Loan from a private organization	Joint-investment Lending in a package with supply of tangible assets and services	Partnership Credit cooperative	State program CAP Area-based subsidies, etc.
Insurance	Buying an insurance policy Purchase of "insurance service"	Insurance in a package with tangible assets Long-term insurance contract	Cooperation	Reserve fund

Marketing of farm produce and services	Retail sale Wholesale Standard contract Digital marketing	Long-term purchase agreement Interlinked marketing contract in a package with credit, supply of tangible assets and/or services Trade in organic, eco, etc. products with independent certification and audit	Partnership Cooperation	
Services with collective and public goods character	Retail sale	Long-term contract with a private organization Long-term contract with non-governmental or other organization	Partnership Cooperation Collective codes of conduct	Public eco-contracts Cross-compliance

Source: the author

The identification, classification, analysis and evaluation of the diverse agrarian contracts used at the modern stage of development and their critical (personnel, institutional, technological, etc.) factors is to be the subject of a special (micro)economic study. It is to be based on available statistical and other reporting information from government, professional, etc. organizations, interviews and expertise of managers of farms and agrarian organizations, administrators, researchers, etc. In-depth interviews with experts and farm managers, case studies of typical and innovative farms, in-depth research of typical (agricultural land and land rent) and new forms (organic farming, digital marketing, etc.) of contractual relations have to also be done as well as researching particular forms and new publications in the area.

### *5.2. Modernization of system of agrarian contracting*

A holistic analysis of contractual relations in agriculture makes it possible to identify not only how agriculture is governed, but to identify existing (market, private, collective and public) failures, and make recommendations for improving the institutional environment, contractual governance and forms of public intervention in the agricultural sector. The analysis of agrarian agents of different types, their characteristics and contractual needs, and the process and outcome of agrarian contracting and implementation of agrarian contracts, will allow to identify the potential, problems and costs (transactional and overall) of different types of contracts used in (e.g. Bulgarian) agriculture. On this basis, cases of market and contractual difficulties and "failures" in the effective governance of the relationships of farm entrepreneurs with suppliers of resources, services, buyers of farm produce and services, government organizations and other interested parties, in the main functional areas of farm management, in individual sub-sectors or areas of agrarian governance. In addition, it will be possible to identify cases of "public failure" - when there is a need for third-party intervention (the state, NGOs, etc.) in the market and private relations of agents (defined in Figure 3), but there is no effective (public, collective or private) form to facilitate contractual relations.

Based on this analysis, it will be possible to make recommendations for: (a) improving the institutional environment and regulations for increasing the efficiency and intensifying private contracts between agents - better definition of private rights, more effective protection, registration (reduction of fees, on-line registrations, etc.) and enforcement of existing rights and rules by the responsible organizations (court, state administration, etc.), better sanctioning and resolution of conflicts of private contracts of agents through court system, arbitration and etc., introduction of new private and collective rights (creation, privatization of public resources, activities and functions), rules and system for their enforcement and protection, etc.; (b) improvement of public forms of intervention in contractual relations and in the agrarian sphere – upgrade information and training of private agents in institutional rules and restrictions, and "contractual" relations and management, public support for the development of collective forms (coalitions) for joint activity, improvement of forms, efficiency (introduction of market-like mechanisms, such as open tender, etc.), control (inclusion of interested parties and beneficiaries in control and management) and transparency of public contracts, expansion of public-private partnerships, and etc.

The choice of effective forms of public intervention in market and private relations is determined through Comparative Structural Analysis (Bachev, 2010a). After identifying the challenges (problems, conflicts, failures, risks, high private costs, etc.) in the contractual relations and the existing market, private and public order, the needs for new public intervention and for the involvement of the "state" in the market and private relations of agents are to be specified. Alternative forms of new public intervention that can correct market, private and public failure are to be then identified; their comparative effectiveness evaluated and the most effective one(s) selected. Finally, the comparative effectiveness of the chosen public form must be evaluated in relation to another practically possible form of governance such as partnership with the private sector, fundamental institutional modernization, international cooperation, etc.

The comparative efficiency of public intervention must be determined in terms of potential for coordination, incentive, conflict resolution, and cost minimization. Public forms not only assist market and private transactions, but are also associated with significant (public and private) costs. It is important to compare practically (technically, economically, socially) possible and alternative forms of governance. Estimates are to include the total costs – direct (to taxpayers, the implementing agency); transaction costs of bureaucracy (for coordination, incentives, control of opportunism and mismanagement); costs of individuals' participation (for adaptation, information, paperwork, fees, bribes); for social control over and reorganization of public forms (modernization, liquidation); opportunity costs of public inaction, etc.

The scientific and economic analysis of contractual relations in the agrarian sphere enables a (more) adequate assessment of their state and improvement of their governance. In this way, interested parties and the public as a whole are informed about the real effectiveness and potential for improvement of the existing contractual structure in the agrarian sphere. This analysis also let make valuable recommendations for improvement of the system of agrarian, statistical, etc. data collection which have to provide important information about type, factors etc. of contracts used



by agricultural agents to govern their relations with suppliers, buyers, public organizations, and other interested parties.

## **Conclusion**

The article tried to prove that the neglected in Bulgaria and some other countries economic analysis of agrarian contracting and agrarian contracts is necessary and only possible through a holistic and interdisciplinary approach. The methodological framework for economic analysis, assessment and improvement of agrarian contracts in the country includes the following important elements: economic definition of agrarian contracts and characterization of their place in the system of agrarian governance as bilateral or multilateral agreements related to agricultural production and services; economic characteristics of the agents participating in contractual relations (interests, level of awareness, risk-taking tendency, capability, tendency to opportunism, etc.); economic characteristics of different types of agrarian contracts (for purchase and sale, hire of labor and resources, services, loan, insurance, marketing, coalition, etc.); economic characterization of the agrarian contracting process (technological, transactional, institutional, etc. factors for managerial choice); economic characterization of the outcome of the contractual process and the dominant social order in the agrarian sphere (rule of law, rule of force, contractual structure, etc.); characterization of the stages for the improvement of agrarian contracts and governance (identification of problems and failures of the market, private contracting, and public forms; needs and forms of new public intervention, etc.); and identifying new information needs for analysis and evaluation of agrarian contracts and governance.

## References

- Alulu J., D. Otieno, W.Oluoch-Kosura, J. Ochieng, M.Moral. (2021): Comparison of technical efficiency and technology gaps between contracted and non-contracted vegetable farmers in Western Kenya. *Cogent Food & Agriculture* 7:1.
- Arrow K. (1962): Economic Welfare and the Allocation of Resources for Invention, in *The Rate and Direction of Inventive Activity*, 609 (Nat'l Bureau of Econ. Research ed. 1962).
- Bachev, H. (2010)a: *Governance of Agrarian Sustainability*, New York: Nova Science Publishers.
- Bachev, H. (2010)b: *Management of Farm Contracts and Competitiveness*, VDM Verlag Dr. Muller, Germany.
- Bachev, H. (2010)c: FRAMEWORK FOR ANALISIS AGRARIAN CONTRACTS, MANAGEMENT RESEARCH AND PRACTICE Vol. 2 Issue 1, 39-66.
- Bachev H. (2013): Risk management in the agri-food sector, *Contemporary Economics*, Volume 7, Issue 1, 45-62.
- Bachev H. (2021): Modes of Governance for Ecosystem Services in Bulgarian Farms, *Икономически изследвания, Economic Studies*, Vol. 30, No 8, 145-174.
- Bachev H. (2023): What is Agrarian Governance?, in A. Tavidze (Editor) *Progress in Economics Research*, Vol. 51, Nova Science Publisher, New York, 131-160.
- Bachev, H. and M.Labonne (2000). *About Organization of Agrarian Innovations*. Montpellier: INRA.
- Bellemare M. (2015): Contract Farming: What's In It for Smallholder Farmers in Developing Countries? *30(3)*, 1-6.
- Bulte E., P. Richards, M. Voors (2018): *Institutions and Agrarian Development, A New Approach to West Africa*, Palgrave Macmillan.
- Coase, R. (1960): The Problem of Social Cost, *Journal of Law and Economics* 3: 1-44.
- Coase R. (1991): The Institutional Structure of Production, Nobel Prize Lecture, reprinted in 1992, *American Economic Review*, 82(4), 713-719.
- Coase R. (1998): The New Institutional Economics, *American Economic Review*, 88(2), 72-74.
- Deshpande, C. (2005): *Contracting Farming as Means of Value-Added Agriculture*, National Bank for Agriculture and Rural Development, Mumbai.
- Dinterman C. (2022): What Farmers Need to Know About Carbon Contracts, *Successful Farming*, April 14, 2022.
- Ducos G. and P. Dupraz (2006): Private Provision of Environmental Services and Transaction Costs, *Agri-environmental Contracts in France*, paper presented at the 3d World Congress of Environmental and Resource Economics, 3-7 July, 2006, Kyoto.
- Furuboth, E. and R. Richter (2005): *Institutions and Economic Theory: The Contribution of the New Institutional Economics*. Ann Arbor: The University of Michigan Press.
- Georgiev M. (2011): Institutional Analysis of Transactions in Agricultural Land Contracts in Bulgaria", *Agricultural University, Agrarian Sciences*, 3, issue 5, 53-62.
- Georgiev M., T Stoeva, V Dirimanova (2023): The governance structure of agricultural land contracts—discrete structural alternatives, *Bulgarian Journal of Agricultural Science*, 29 (Suppl. 1), 71-83.

- Goodhue R. (2022): From Handshakes to Blockchains: Economic Analysis of Contracts in Agriculture. In: de Gorter, H., McCluskey, J., Swinnen, J., Zilberman, D. (eds) *Modern Agricultural and Resource Economics and Policy. Natural Resource Management and Policy*, vol. 55. Springer, Cham.
- Hayami Y., K. Otsuka (1993): *The Economics of Contract Choice: An Agrarian Perspective*, Oxford University Press.
- Ikeda, S.; Natawidjaja, R.S. (2022): The Sustainability of Contract Farming with Specialized Suppliers to Modern Retailers: Insights from Vegetable Marketing in Indonesia, *Agriculture*, 12, 380.
- James H., P. Klein, M. Sykuta (2011): The Adoption, Diffusion, and Evolution of Organizational Form: Insights from the Agrifood Sector, *Managerial and Decision Economics* 32(4), 243–59.
- Kuzilwa J., N. Fold, A. Henningsen, M. Larsen (2019): *Contract Farming and the Development of Smallholder Agricultural Businesses: Improving markets and value chains in Tanzania*, Routledge.
- MacDonald J. (2015): Trends in Agricultural Contracts, *Choices*, 30(3), 1-6.
- Massey, R., M. Sykuta, V. Pierce, (2020): *Contracts in agriculture. Farm management*. University of Missouri.
- Michler J. and S. Wu (2020): Relational Contracts in Agriculture: Theory and Evidence, *Annual Review of Resource Economics*, Vol. 12, 111-127.
- Mishra A., A. Kumar, P. Joshi (Editors) (2022): *Transforming Agriculture in South Asia The Role of Value Chains and Contract Farming*, Routledge.
- Mugwagwa, I., J. Bijman, J. Trienekens, 2020. Typology of contract farming arrangements: a transaction cost perspective, *AGREKON*, 59 (2), 169-187.
- North D. (1990): *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press.
- Ostrom E. (1999): Revisiting the Commons: Local Lessons, Global Challenges, *Science* 284, 278–282.
- Otsuka K., H. Chuma, Y. Hayami (1992): Land and Labor Contracts in Agrarian Economies: Theories and Facts, *Journal of Economic Literature*, Vol. 30, 1965-2018.
- Ronaghi M., S. Saghaian, Mohammadreza Kohansal, M. Reed, Mohammad Ghorbani (2020): The Effects of Good Governance on the Agricultural Sector, *International Journal of Agriculture and Environmental Research*, Vol.6, Issue 1, 11-29.
- Santiago M., and M. Sykuta (2016): Regulation and Contract Choice in the Distribution of Wine, *Journal of Wine Economics* 11(2), 216-232.
- Schieffer J. and M. Vassalos (2015): Risk and the Use of Contracts by Vegetable Growers, 30(3), 1-6.
- Stebek E. (2011): Between ‘Land Grabs’ and Agricultural Investment: Land Rent Contracts with Foreign Investors and Ethiopia’s Normative Setting in Focus, *Mizan Law Review*, vol. 5.
- Sykuta M. (2010): Concentration, Contracting and Competition: Problems In Using The Packers & Stockyards Act To Supplement Antitrust, *The CPI Antitrust Journal*, 4(2).
- Sykuta M., J. Parcell (2003): Contract Structure and Design in Identity Preserved Grain Production.” *Review of Agricultural Economics*, 25(2).

- Sykuta M., M. Cook. (2001): A New Institutional Economics Approach to Contracts and Cooperatives, *American Journal of Agricultural Economics*, 83(5), 1273-1279.
- Technical support (2002): Advantages and Disadvantages of Contracting and Sub-Contracting in Marketing of Agricultural Produce, Friedrich Ebert Stiftung.
- USDA (2012): Agricultural Resource Management Survey: farms with contracts by farm typology, 2012. From Farm Structure and Organization: Background on Farm Organization, USDA Economic Research Service.
- Veldwisch G. and P. Woodhouse (2021): Formal and informal contract farming in Mozambique: Socially embedded relations of agricultural intensification, *Journal of Agrarian Change*, 22, 162–178.
- Villaume S. (2011): Paid employment in agriculture: the rising proportion of seasonal contracts division Agriculture, Insee.
- Voutos Y., G. Drakopoulos and P. Mylonas (2019): Smart Agriculture: An Open Field for Smart Contracts, 2019 4th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM), 2019, 1-6.
- Williamson O. (2005): The Economics of Governance, *American Economic Review* 95: 1–18.
- World Bank (2015): Investment Contracts for Agriculture: Maximizing Gains and Minimizing Risks, World Bank.
- Wu S. and J. MacDonald (2015): Economics of Agricultural Contract Grower Protection Legislation, 30(3), 1-6.
- Башев Х. и Д.Терзиев (2001): Организация на снабдяването със земя в българските ферми, *Икономика и управление на селското стопанство*, 6, 17-27.
- Башев Х. и Д.Терзиев (2002а): Организация на снабдяването със труд в българските ферми, *Икономика и управление на селското стопанство*, 1, 21-30.
- Башев Х. и Д.Терзиев (2002б): Организация на снабдяването с материални активи в Българските ферми, *Икономика и управление на селското стопанство*, 2, 17- 24.
- Башев Х. и Д.Терзиев (2002с): Организация на снабдяването с услуги в българските ферми, *Икономика и управление на селското стопанство*, 3, 20-28.
- Кочева Д. (2018): Приложение на икономически инструменти за управление на битовите отпадъци в общините в България“, дисертационен труд за присъждане на образователна и научна степен „доктор“, УНСС.
- Радева Д. (2017): Икономика на новото алтернативно земеделие в България – Пермакултура, дисертационен труд за присъждане на образователна и научна степен „доктор“, УНСС.
- Саров А. (2017): Управление на земеделските кооперации – предизвикателства и перспективи, дисертационен труд за присъждане на образователна и научна степен „доктор“, ИАИ.
- Терзийска Р. (2016): Управление на мрежови структури в аграрния бизнес, дисертационен труд за присъждане на образователна и научна степен „доктор“, УНСС.
- ЗЗД (2021): ЗАКОН за задълженията и договорите, последно изменение, 2021г.
- ЗАЗ (2018): ЗАКОН за арендата в земеделието, последно изменение, 2018г.
- Bachev H. (2002): Study on land supply in Bulgarian farms, *Farm Management and Rural Planning* 3, 189-203.

- Bachev H. (2014): Environmental management in agriculture, *Икономическа мисъл*, 1, 56-79.
- Bachev H. and M Kagatsume (2002): Governing of Financial Supply in Bulgarian Farms, *The Natural Resource Economics Review*, 8, 131-150.
- Башев Х. (2006): Управление на аграрната и селска устойчивост, *Икономика и управление на селското стопанство*, 4, 27-37.
- Хаджиева В., Д Митова, М Анастасова, Х Башев, В Мицов (2005): Планиране на устойчивото развитие на земеделското стопанство, *Икономика и управление на селското стопанство*, 5, 37-43
- Башев Х. (2014): Екоуправление в селското стопанство, *Икономическа мисъл*, 1, 29-55.
- Bachev H. (2012): Governing of Agro-Ecosystem Services in Bulgaria, *Research Topics in Agricultural and Applied Economics* 3, 94-129.
- Bachev H. , B Ivanov, A Sarov (2021): Assessing Governance Aspect of Agrarian Sustainability in Bulgaria, *Bulgarian Journal of Agricultural Sciences* 27 (3), 429–440.
- Bachev H. and D.Terziev (2019): Sustainability of Agricultural Industries in Bulgaria, *Journal of Applied Economic Sciences* 14 (1).
- Bachev H. (2016): Sustainability of farming enterprise-understanding, governance, evaluation, *Вісник Київського національного університету ім. Тараса Шевченка*. 2 (179), 6-15.
- Башев Х., Ш. Че (2018): Управление и оценка на аграрната устойчивост в България и Китай (GOVERNING AND ASSESSMENT OF AGRARIAN SUSTAINABILITY IN BULGARIA AND CHINA), *Институт по аграрна икономика*.
- Bachev H., N Koteva, K Kaneva, D Terziev, D Vanev (2017): Sustainability of Bulgarian farms during reformed CAP implementatation, *Ikonomika i upravlenie na selskoto stopanstvo/Bulgarian Journal of Agricultural Economics and Management*, 62,2, 55-67.
- Bachev H. (2021): Unpacking competitiveness of agricultural farms in Bulgaria, *Journal of Economics Bibliography* 8 (1), 56-81.
- Башев Х., Д Ванев (2017): Управленческа, икономическа, социална и екологическа устойчивост на земеделските стопанства, *Икономика и управление на селското стопанство* 1, 18-42.
- Bachev H., N Koteva (2021): Reexamining Competitiveness of Bulgarian Farms, *Environmental Management: Ecosystems, Competitiveness and Waste Management*, Nova Science Publishing, New York, 59-90.
- Башев Х., Н Котева, Д Митова, Б Иванов, М Анастасова-Чопева (2019): Оценка на устойчивостта на българското селско стопанство, *ИАИ София*.
- Башев Х. , Н Котева, К Кънева, П Йовчевска, Д Митова, Б Иванов, (2018): Система за оценка на устойчивостта на българското селско стопанство, *ИАИ, София* .

- Bachev H., T Nanseki (2008): Risk Governance in Bulgarian Dairy Farming, paper presented at the 12th Congress of the European Association of Agricultural Economists “People, Food and Environments–Global Trends and European Strategies”, 26-29 August 2008, Ghent.
- Башев Х., Б Иванов, А Саров (2021): Подход за оценка на управленческата устойчивост на българското селско стопанство, *Bulgarian Journal of Agricultural Economics & Management*, 66, 1.
- Bachev H. (2020): Digitalisation of Bulgarian agriculture and rural areas, *Ikonomika i upravlenie na selskoto stopanstvo*, 65, 2, 3-24.
- Bachev H., M Mihailova (2019): State, Efficiency and Factors of Development of the System of Knowledge Sharing, Innovation and Digitalization in Agriculture, *Ikomika i upravlenie na selskoto stopanstvo* 64 (4), 3-23.
- Ivanov B., R Popov, H Bashev, N Koteva, N Malamova, M Chopeva (2020): Analiz na sastoyaniето na selskoto stopanstvo i hranitelno-vkusovata promishlenost, Report. Agricultural Academy.
- Bachev H. (2016): A holistic approach for assessing the system of governance of agrarian sustainability, *Journal of Economic and Social Thought* 3 (3), 455-477.
- Bashev H. (2014): Forms, factors and efficiency of eco-management in Bulgarian farms, *Economic Thought journal*, 5. 58-85, 86-112.
- Bachev H. (2010): Assessing farm competitiveness in Bulgaria, Available at SSRN 1686683
66. Bachev H. and B.Ivanov (2024): Framework for Holistic Assessment of the Quality of Agri-food Governance in Bulgaria, *Sustainability*, Vol. 16, No 5, 2177.
- H Bachev, M Kagatsume (2002): Governing of Financial Supply in Bulgarian Farms, *The Natural Resource Economics Review*, 131-150.
- В Хаджиева, Д Митова, М Анастасова, Х Башев, В Мицов (2005): Планиране на устойчивото развитие на земеделското стопанство, *Икономика и управление на селското стопанство*, 37-43.
- Х Башев (2006): Управление на аграрната и селска устойчивост, *Икономика и управление на селското стопанство*, 27-37.
- H Bachev (2014): Екоуправление в селското стопанство, *Икономическа мисъл*, 29-55.
- H Bachev (2012): Governing of Agro-Ecosystem Services in Bulgaria, *Research Topics in Agricultural and Applied Economics* 3, 94-129.
- H Bachev, B Ivanov, A Sarov (2021): Assessing Governance Aspect of Agrarian Sustainability in Bulgaria, *Bulgarian Journal of Agricultural Sciences* 27 (3), 429–440.
- H BACHEV, D TERZIEV (2019): Sustainability of Agricultural Industries in Bulgaria, *Journal of Applied Economic Sciences* 14 (1).

H Bachev, N Koteva (2021): Reexamining Competitiveness of Bulgarian Farms, Environmental Management: Ecosystems, Competitiveness and Waste Management, Nova Science Publishers.

H Bachev, M Mihailova (2019): State, efficiency, and factors of development of the system of knowledge sharing, innovation and digitalization in agriculture.

H Bachev (2011): Governing of Chemical and Biological Risks in Agri-food Sector: Modes, Efficiency, Challenges, Exploring Multidisciplinary Approaches to Chemical and Biological Defence, NATO ARW, Israel.

Х Башев, Д Ванев (2017): Управленческа, икономическа, социална и екологическа устойчивост на земеделските стопанства, Икономика и управление на селското стопанство 1, 18-42.

H Bachev, T Nanseki (2008): Risk Governance in Bulgarian Dairy Farming, paper presented at the 12th Congress of the European Association of Agricultural Economists “People, Food and Environments–Global.

H Bachev (2023): Agrarian Governance–Who, What, Why, How, Where, When, Price, Level? Theoretical and Practical Research in Economic Fields (TPREF) 14 (27), 105-125.

H Bachev (2016): Sustainability of farming enterprise-understanding, governance, evaluation, Journal Вісник Київського національного університету ім. Тараса Шевченка. Серія: Економіка, Issue 2 (179), 6-15.

H Bachev (2020): Digitalisation of Bulgarian agriculture and rural areas, Journal Ikonomika i upravlenie na selskoto stopanstvo (Bulgarian Journal of Agricultural Economics and Management), Volume 65, Issue 2, 3-24.

Х Башев, Н Котева, Д Митова, Б Иванов, М Анастасова-Чопева (2019): Оценка на устойчивостта на българското селско стопанство, ИАИ.

Х Башев, Н Котева, К Кънева, Пл Йовчевска, Д Митова, Б Иванов, Св Александрова, Д Тотева, А Саров, Е Соколова (2018): Система за оценка на устойчивостта на българското селско стопанство, Институт по аграрна икономика, София.

Н Котева, Х Башев, М Рисина, М Младенова (2009): Оценка на въздействието на ОСП на ЕС върху земеделските стопанства, Икономика и управление на селското стопанство, 16-25.