Department "Economics and Management of Organizations in Agriculture and Rural Areas"

Mihaela Mihailova Mihailova

Land relations and the influence of the institutional environment on Bulgarian agriculture

ABSTRACT

of a dissertation for the creation of an educational and scientific degree "Doctor" professional management 3.8. Economy,

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Supervisor:

Prof. Dr. Plamena Georgieva Yovchevska

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I. GENERAL CHARACTERISTICS OF THE DISSERTATION

RELEVANCE OF THE PROBLEM

The study of land relations (LR) is part of the process of studying the nature and state of economic relations and changes in the economic environment in which agriculture operates. The nature of LR is determined by their direct symbiosis with production and economic relations in the industry. The processes in land relations and the topic of land have been considered since the birth of economic theories. This is due to the fact that land is the main factor of production in the land - labor - capital system.

The dissertation research is based on the need to analyze the problems that arose after the land and agricultural reform in the 90s, as well as due to changes in the institutional environment for the functioning of Bulgarian agriculture after the country's accession to the common European economic space. At the forefront is the need to solve problems related to the failed land and agricultural reform on the one hand, and some of the new processes arising from land use in the EU CAP, on the other, which, due to incentives, distort the real processes in the economic system. There is a desire to meet the conditions for the absorption of subsidies.

In 1991, with the Law on the Ownership and Use of Agricultural Land, the private ownership of agricultural land in our country was restored within real limits. This legislative decision does not help to improve the economic environment in agriculture. The industry is stagnating due to the fragmentation of the land and its return to owners who have lost touch with agriculture. This nature of ownership, and later the desire to absorb subsidies from the EU, lead to a decrease in the competitiveness of Bulgarian agriculture. Land relations begin a long process of development. Land use and land tenure, both sides of the LR, reflect problems in a dynamically changing institutional environment. The fragmented nature and the lack of connection of the owner with the land leads to the appearance of vacant lands and a reduction of many of the production volumes of agricultural products in the country, compared to the period of the planned farm. From 2.5 to 3 million people are addicted/related to processes arising from the state of LR in our country. Most of the owners and managers of agricultural land are dissatisfied with the development and efficiency of agriculture as well as with the burdensome administrative processes of restoring land ownership. The dissertation research examines both the legislation and the impact that the legal framework has on the economic environment and the symbiotic relationship between them. The parallel study of the institutional environment and its impact on the economic situation of the industry allows to seek answers to questions related to solving the above problems in the LR. All this requires a methodologically appropriate approach to the study and analysis of problems, especially since some of them are interdisciplinary.

Restrictive conditions of the study: The study is performed under certain pre-set conditions. Two databases were used - from SAPI and MAF agricultural reports in the period 1990 - 2007 and NSI, Eurostat and MAF agricultural reports in the period 2007 - 2018. The two periods are not comparable, given the different methods used in the collection of information. The dissertation works with a unit of measurement hectares in order to have comparability with the processes in other countries and to avoid discrepancies in the data during the two periods of the study.

OBJECT, SUBJECT MATTER AND SCOPE OF THE RESEARCH

The object of the study is the change in the institutional environment on land relations in Bulgaria and the impact of the maturity of land relations on the place of agriculture in the national economy.
The subject of the research is the symbiosis/systemic connection between the state of LR and agriculture in different historical periods and the influence of the different institutional environment.
The aim of the dissertation research is to reveal the existing problems and make an analysis in order to outline guidelines for change and improvement of the implementation of the Community agricultural policy in the field of land relations in Bulgarian agriculture.
Tasks:

- Based on a critical literature to conduct a review to deduce the role of land in the development and improvement of economic theories
- To review the institutional environment leading to changes in LR in the period of transition to a market economy.
- Analysis of the development of land relations in both segments - land use and land tenure in the period 1990 - 2018.
- Assessment of the impact of land relations on the economic importance of the industry - creating value, added value and improving the socio - economic situation in agriculture.
- To outline the directions of development of land relations in the conditions of the new programming period of the EU CAP 2021-2027.

RESEARCH THESIS AND HYPOTHESES

Thesis: The problems related to LR are fundamental for the state of agriculture and the place of the industry in the economy as a whole. Land relations as public relations in agriculture are still immature. The dynamics of their development is predetermined by the transformation of the social model of society in the 90s and the implementation of the aquis communitaire after 2007.

Hypotheses:

1. The transition from a planned to a liberal / market economy without economic analysis and an appropriate legislative framework, in the application of purely political decisions, leads to the fragmentation of land ownership.
2. The restitution processes are chaotic, the legislation dynamically changes the institutional environment, burdens the bureaucratic structure, which hinders the normal functioning of the two segments of land relations - land use and land tenure.
3. The institutional framework of the CAP is an essential factor for maturing land relations, activating the market and improving land use and land tenure.
4. Dynamic changes in land relations have an active impact on the economic environment for the functioning of the agricultural sector in our country.

STRUCTURE OF THE STUDY

The present study is structured in three standard chapters: theoretical-methodological, analytical-research and constructive. The total volume of the entire dissertation is 233 pages, including 44 graphs, 20 tables, 4 figures and 242 sources of information.

Contents

II. SYNTHESIZED EXHIBITION OF THE DISSERTATION

CHAPTER ONE: THEORETICAL AND METHODOLOGICAL FRAMEWORK FOR THE STUDY OF EARTH RELATIONS

The attitude of economic entities to land resources as an indispensable factor in economic activity in agriculture arouses the interest of researchers from different eras. At the same time, in the course of the evolution of societies, complex connections of relations arise between the economic entities themselves, which are part of the economic system of agriculture.

Theoretical framework

The analysis of land relations is based on certain economic studies / theories about the role of land in the economic activity of agents / actors in agriculture. Economic motives and decisions are the basis of all changes in the PA (including land use and land tenure). In this regard, in the study we study / highlight certain doctrines that derive the role of the earth in economic theory. This critical review / analysis of literary sources, authors, schools, currents is presented conceptually and historically. The issues related to the earth are the subject of interdisciplinary research by researchers from different fields of science: philosophers, economists, mathematicians, geographers and others. We support all the authors who believe that the study of land-related topics follows the dynamics of economic conditions in different periods of socio-economic development of societies. The study is limited to those economic theories that have caused a change in the perception or conceptualization of land and in particular land relations.

Within the pre-classical school of economics in the 15th century, due to the dynamic economic life, a number of scientific directions were born. Most important among them is the doctrine of mercantilism, which dominated economic theory and dominated economic practice in Europe until the eighteenth century. Prominent representatives are: Francis Bacon, Thomas Mann, William Petty and others, who defend the concentration of land ownership and the establishment of market relations. From an institutional point of view, most of the economic system of societies in this historical period is still dominated by feudalism. The land remains a key element in the general social / feudal order, at the heart of the military, judicial, administrative and political system. Land is not only an important source of wealth to feed a growing population and a source of valuable raw materials, but land is also a fundamental factor in organizing public life. This explains the importance of the land factor for the development and the state of socio-economic relations in societies.

The Physiocrats were the first scientific school to highlight the importance and role of the earth. Their research gives a significant impetus to the development of political economy. Tableau économique or the Economic Table is an economic model first described by the French economist François Quesnay 1694 - 1774 in 1758, which laid the foundations of the physiocratic school of economics. According to physiocrats, the level of agricultural production and net product determine the overall level of economic activity. Cantillon (Richard Cantillon 1680 - 1734) considers the owner of the land as the only independent producer. Increasing the net product allows landowners to invest in improving their land. Fundamental relations between land and labor are being sought. With the development of philosophy and politics, the significance of the individual is brought out and the fundamental relations between the land and the labor of the individual begin to be sought. Cantilon sees the earth as the only original and main bearer of wealth. The intrinsic values of goods are reduced relative to the amount of land that is directly and indirectly needed for their production. These intrinsic values embodied in the earth can also be transferred into monetary

values. Physiocrats believe that the price of land is determined by its creditworthiness. While for Cantillon (Richard Cantillon 1680-1734) land was a source of all value, Petty suggested in a different way the possibility of interpreting the "land-labor" or "labor-land" relationship and seeking connections between them. The value of land, according to him, depends on the ratio of the greater or lesser part of the income it brings, which is paid for its use (ie rent), to the simple labor expended to create this income. Petty (Sir William Petty, 1623–1687) believed that economic processes should not only be considered, but also that their understanding and awareness of their inner nature and essence should be emphasized in order to better draw conclusions about economics. To this end, Petty advises us to explain the mysterious nature of both the money rent, called interest, and the rent from land and homes. John Locke (1632 - 1704) built on Petty's theory and believed that land was a function of the amount of labor expended to improve it. The perception of the Physiocrats about the earth as a reproducible factor for production can be interpreted as the fact that the earth is primarily a physical factor and not so much an economic one. According to Montchretien, there is a set of rules regarding economic policy. He advocated "natural wealth, ie the production of agricultural products" and proposed the establishment of craft schools, the opening of public workshops to improve the quality of restricting imports. The change in the economic environment in the 18th century gave birth to new theoretical schools related to the earth, which are the basis of economic classicism. He connects the price of land with land rent and is close to understanding that it is a capitalized land rent, but he fails to arrive at this true theoretical summary. Sir William Petty comes remarkably close to the idea that the exchange value of a commodity is determined by the amount of labor required to produce it. Half a century later, Richard Cantillon (1680 - 1734) distinguished the market price by "intrinsic value", the latter being proportional to the land and labor required for its production. This is the time of the rise of the industrial class and the beginning of the decline of the importance of rentiers. The main research program of classical economists is to extract the relationship between prices and their investments: labor, capital and land, as well as their contribution to economic growth. Many of the basic concepts and principles of classical economics are derived from Smith's study of the nature and causes of the wealth of nations (Adam Smith, 1776). When Adam Smith wrote the treatise, the industrial revolution was just beginning. This explains his belief that agriculture, not production, is the main source of wealth. The price paid for land use, according to Smith, is a monopoly lease. Adam Smith's assumptions about the return on land (as well as the factors used in production) are those of increasing returns. Smith's analysis of land and rents shows that he does not appreciate landowners or employers who benefit from "monopoly prices not because of any effort, but only because of their ownership of the land, its location and its fertility." John Stuart Mill (1806-1873) also contributed to the development of economic theory of land, he presented what was later called "extensive margin": as population growth leads to the use of poorer soils, this leads to lower returns.

According to David Riardo, the rent is the share of the land product that is paid to the landowner, and the source of the rent is the labor applied to the land. In Ricardo's theory, there are two reasons for rent: uneven fertility and lack of land. In the systematic development of Ricardo's labor theory of value, rent is explained entirely in terms of labor. The exchange values of agricultural products are determined by the capital and labor costs applied to marginal land. Here Ricardo has opposing views of Cantilon and the Physiocrats. Karl Heinrich Marx (1818-1883) adopted many of the views of classical economists. Marx's theory of value is strongly influenced by Ricardo's theory of value. Unlike many of his contemporaries, he did not see the earth as a fixed whole, since the fertility of the earth could be influenced by human labor (Marx (1867) 1967: 139). He believes that in the

capitalist system there is a tendency to reduce the fertility of the earth, which is not far from the ideas already discussed in the past. For Marx, rent is a "product of society, not of the soil," reflecting the exercise of power over a plot of land, not the varying degrees of its fertility. Marx's theory of rent is the most difficult part of his economic theory. According to labor theory, less productive labor in agriculture determines the market value of food. A very different view of the earth was presented by Johann Heinrich Von Thunen (Johann Heinrich Von Thunen 1783 - 1850). Von Tunen in his book Isolated State (1826) used distance as a central concept. He is interested in the model of agricultural production around the central city in an isolated state, in a plain of equal fertility. Henry George has been a major figure in the American economy since the 19th century. He is considered the last classical economist. His work offers ideas from classical and neoclassical economics and was written in a period of significant economic growth. For most of the above authors, land has a special role in the production process and their work is focused on the issues of land productivity or income distribution. Classical economists lay the foundations of modern economics. In most of the analyzes of the representatives of the classics, the earth retains its special role. As fertile land is considered to be of limited supply, classical economists believe that agricultural production will be subject to declining returns. On the other hand, industrial machines could be reproduced and could be used indefinitely, with the right resources. The aggregate product function, the concept of which was created by the representatives of the classical school, can be represented in the equation: Y = f (L, K, N), where Y = production, L = land, K = capital and N = labor. This "classic triad", developed by the recognition of the three categories of participants in the economic process - landowners, workers and capitalists - is associated with a triad of income - rents, wages and interest. Although there is much research on the impact of environmental change on the content of theories, no unambiguous explanation can be given for the change that led to the "neoclassical revolution." The distinctive features of the neoclassical economy are likely to be shaped by the duration of the industrial revolution, the pace of technological development, the shift from food and fiber economies to fuel economies, and economies in the industrialized world that appear almost independent of the mining industry. In neoclassical theory, the earth is divided into different categories, and many of the ideas developed by classical economists have been adopted by neoclassicists. They emphasize land and environmental resources. A prerequisite for this in neoclassical economic theory is that economic agents are governed by self-interest, which is expressed in maximizing utility or maximizing profit. In the neoclassical paradigm, the same logic applies to all aspects of land use or resources. These conceptual divisions in the doctrine of the role of the earth have proved effective and useful for allocating land resources in the short term. After reviewing schools and their impact, we believe that the rejection of neoclassicism by a number of authorities in science and the return / return to the classical understanding of the role of land as capital has a strong impact on the new institutional theoretical framework.

The study of the role of land in the economic life of societies highlights the role of land relations and has a fundamental and essential role in the development and improvement of economic theory. The first research in the field of PO focused on the role of land as an indispensable factor of production used in agriculture. Hence the importance of economizing the processes of economic use of land as a factor of production. The economical study of land use processes is subject to various influences: holistic, historical and practical. Hurrelmann (2002) also relies on the idea of the holistic model, whose model we consider to be the most adaptable and apply for the purpose of this dissertation research. The influence of policies at Community and national level, changes in legislation, the inclusion of the environmental factor, etc. are also the subject of analysis, given the better study of the processes in the development of land relations, incl. land use and land tenure.

In the Bulgarian research circles the issue related to land relations is traditionally among the most important objects of analysis in a number of scientific papers. The first study on the state of land relations in Bulgaria was published in 1890 in the study "On the Agricultural Question" by Peter Gabe. Professor Yanaki Mollov established the Institute of Agrarian Economics more than eight decades ago with the task of studying the processes related to land use in Bulgarian agriculture. In the eighties Jacques Arroyo attached great importance to Bulgarian agriculture as a bearer of benefits for the country's economy. Scientists from the Institute of Agrarian Economics Milka Koleva, Mihail Mihailov, Vasil Grigorov, Diana Savova, Georgi Kyosev, Rumen Popov, Maria Risina, Mimoza Mladenova, Ivanka Yanakieva and others. have a significant contribution to the construction and development of theoretical and methodological formulations for the study of software, whose contribution is relevant to this day. Sofia Davidova, Ivan Penov, Diana Kopeva, Plamen Mishev, Nikola Valchev, Ivan Kanchev, Yulia Doichinova and others have contributed to the research of the processes of transformation and application of world theory in Bulgaria. They make a detailed overview of agriculture and in particular development of land relations before Bulgaria's accession to the EU.

Methodological approach

In view of the hypotheses, the set goals and the formulated tasks in the dissertation research, after approbation, we choose the appropriate methodological tools for the analysis. Given the interdisciplinarity and scope of the study, we believe that combining / combining the PESTLE model with Hurrelmann's "Four Levels of Socio-Economic Analysis" is a reliable methodological approach to objectify the research process and the results obtained during the dissertation.

PESTLE analysis

In the early 2000s, a number of authors, including Lawrence P. Carr and Alfred J. Nanni Jr., refined management theory and adapted/defined PESTLE and its various variants to the environment they were studying. In strategic management, this type of analysis is used to identify, track and evaluate the changes that occur in these environments, the main factors and the severity with which they affect. The significance of these changes is in the fact that they can change the competitive environment in the industry.

Table 1. Schematic of the components of the PESTLE analysis

P	E	S	T	L	E
Government policy	Economic growth	Population growth rate	Technology incentives	Weather Climate	Discrimination laws
Political stability	Exchange rate	Age distribution	Level of innovation	Environmental policies	Antitrust laws
Corruption	Interest rates	Career attitudes	Automation	Climate change	Employment laws
Foreign trade policy	Inflation rates	Safety emphasis	R&D activity	Pressures from NGO’s	Consumer protection laws
Tax policy	Disposable income	Health consciousness	Technological change		Copyright and patent laws
Labor law	Unemployment rate	Lifestyle attitudes			
Trade restrictions		Cultural barriers			

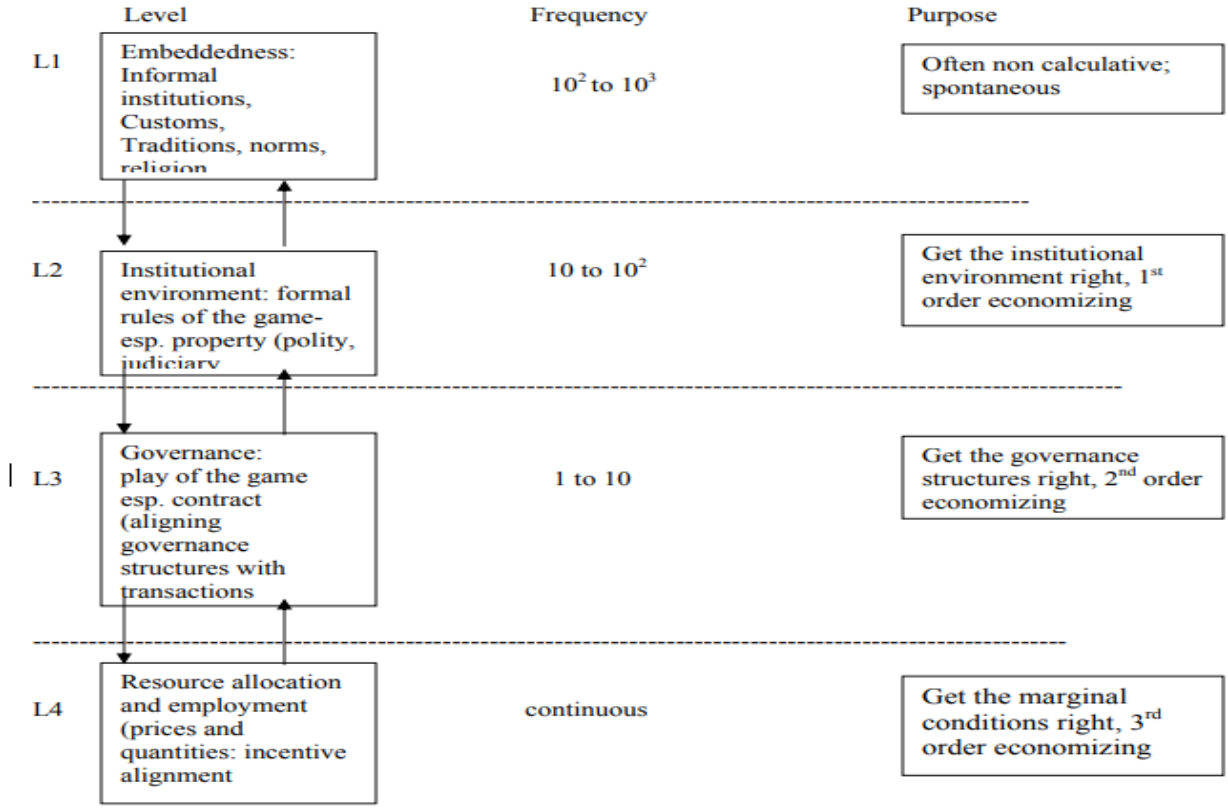
			Technological awareness		Health and safety laws

Source: Author's adaptation by Marmol, T., Feys, B., Probert, C. (2019)

Four levels of socio-economic analysis

The four levels of social analysis is a current theoretical model, which involves analyzing the socio-economic changes in the agricultural system and their impact on land relations. A broader picture of the model was presented by Hurrelmann in 2002, who applied the basic framework developed by Oliver Williamson, "Four Levels of Social Analysis", to describe the boundaries of land markets. The four levels of the model are distinguished by their degree of influence on market transactions and their rate of change over time. The first, highest level, integration is related to cultural values such as informal institutions, customs, traditions, norms and religion and the social environment. The problems that are identified in this area have their genesis in the processes after Bulgaria's exit from the planned economy. All this is a prerequisite for an evaluative change in the social environment, in particular the attitude of the Bulgarians to the land. While in the traditional model, the social level does not play a significant role, in the Bulgarian environment dynamic social change is a major driver for change in other levels. For this reason, the model has been expanded and level 1 has been discussed in more detail.

Figure 1. "Four levels of social analysis"



Source: Williamson Adapted Scheme (2000) in The Four Levels of Institutional Analysis of the Evolution of Joint Forest Management (JFM) in India: A New Institutional Economics (NIE) Approach

The second level, the institutional environment, has undergone sustained change over decades or even centuries. The institutional environment defines the formal relations, the "rules of the game", as the legal framework for property rights established by national administrations. These rights are also influenced by European Union law. Apart from the legislation, land relations are also influenced by historical preconditions, which are reflected in the socio-economic factors determining the economy of the agricultural sector. The institutional framework is crucial here (this reflects the second level of Oliver Williamson's structure). A weak institutional framework can hamper and even paralyze the effective functioning of land markets. The third level is related to governance structures and provides more opportunities to influence markets and, as a result, land prices. Governance is a social practice that is present in all political systems. This term stems from the need to reform and strengthen the analytical models applied in recent decades, which seek to promote optimal relations between the state and other actors in order to guide and address government action through a comprehensive social agreement. The main policies for Bulgarian agriculture during the two periods are SAPARD and the CAP. More broadly, these policies include territorial development plans and regulations, resource management plans, property restrictions (who can buy how much land), certain European measures and rules for the functioning of land markets, cadastral security, and more. The fourth level, which defines land markets, is called resource allocation. It describes the actual property exchange transactions. As a result of the interaction between buyers and sellers, the market determines the prices of land resources. All four levels must be considered together, from a holistic point of view. The model focuses on level 2 (institutional environment), level 3 (governance structure) and level 4 (resource allocation), as they can be most strongly influenced by policy. We will also consider level 1 (customs and traditions), but without giving it the same weight compared to the other 3 levels.

Land use policy and the instruments of the relevant policy not only suggest certain models for assessing land use, but also have a significant impact on its market price. The governing structure creates an important link between land prices, territorial development and incentives for the development of land relations. Some aspects that are important for assessing the state of land relations are described below. The focus set by the institutional environment is described and the institutional framework for the land market (second level) is discussed in more detail.

The main elements of the European governance structure (level three) with regard to land markets include agricultural policy, incl. and subsidies, as well as related restrictions on land ownership and transfer. To some extent, European spatial development policy also plays a role in land pricing. In level 4 (resource allocation), pricing is the central element. As land pricing is one of the focuses in the study of land relations, the analysis explains the methodology for determining prices. Special attention is paid to the main factors for their change in the next stage of the study. The fourth level includes all price-forming factors such as inflation, supply and demand, value added of products and their impact on prices, correlation between land prices and rental prices. The European method for land pricing and the relationship with rent is also applied (František Střeleček, Jana Lososová, Radek Zdeněk 2010). Chavas and Shumway (1981) model the price of land as a function of economic rent. Economic rent includes both land and maximum profit. The price of land is expressed as an annual discounted flow. For this purpose, Gordon's model of constant growth is indicated. Gwartney (2004) compares land rents and the market price of land. The above method is based on the relationship:

*Capitalization = Land rent / Market prices (1), Market land price = (Land rent - fees / taxes) / Capitalization (2), Land rent = Land market price * Capitalization + Fees / Taxes (3)*

The assessment in the analysis is based on the above-mentioned relationships. The degree of capitalization is a very sensitive index that requires precise parameters for its evaluation. The payback period in years is also used for this purpose, as it is a good indicator: Payback period = 1 / Capitalization (4)

A static or dynamic method can be used for this calculation. In the static method, the number of years to cover the rent is a reciprocal of the capitalization ratio. The dynamic method calculates the time value of money and allows the number of years to be determined in relation to the required interest rate.

When determining the prices of utilized agricultural area (UAA) in the EU in the period 1990-2018, data on the interest rate on long-term credit as well as inflation are taken from EUROSTAT (Eurostat 2010), NSI (National Statistical Institute) and agricultural reports. of the Ministry of Agriculture and Food. FADN data were used to determine land rent, agricultural income, rented land, income, expenses and subsidies. The study shows the relationship between land prices in Bulgaria and the rental price. The growth rate or growth rate is a statistical, economic, econometric and financial indicator that shows the rate at which an indicator increases or decreases over equal periods of time. The correlation between the price of land and the price of rent is calculated and through R2 values, which is the square of the correlation. In the social sciences, it is accepted that the correlation matters at a value of r <-0.6 or 0.6 <r, and R2 has a value above 0.35 <R2.

The presented methodological framework and methodological apparatus have been tested, which ensures the objectification of the research results, the reliability of the conclusions and the contributing moments of the dissertation research.

Two models were used for forecasting in Chapter Three. A model of land capitalization adapted by Hungarian researchers was used. The general objective of agricultural subsidies is to support farmers' incomes. In addition, subsidies affect the market for factors of production and, consequently, lead to structural changes. CAP support affects land rents in the new Member States. The expected capitalization in the range of 13-25% is significantly higher than in the old Member States, where the average level of capitalization is estimated at 6%. For forecasts in EU Member States, the impact of Community policy is examined using scenarios developed with CAPRI. Similar scenarios are being developed for Bulgaria after assessing the environment, policies and respectively adapting / adapting the model. The CAPRI incentive model is used to assess the regional impact of cuts in the CAP budget after 2020, both on production structures and on EU agricultural incomes.

CHAPTER TWO: ANALYSIS OF EARTHLY RELATIONS

PESTLE analysis of agriculture

Political environment

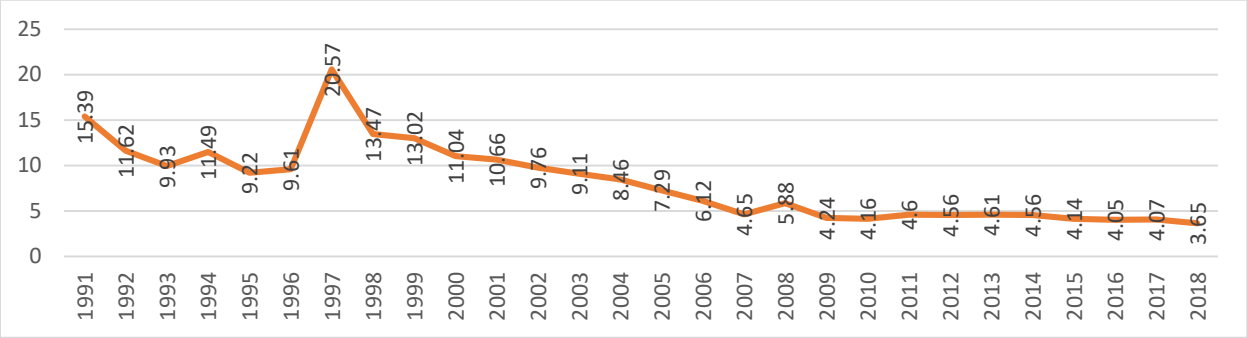
As a member of the EU, Bulgaria is part of the international trade system and an active agent in the common European market, and various laws are in force to protect consumers. One of the main objectives of the European Union (EU) is to maintain a stable economic environment in order to carry out a normal production process for economic operators, regional and national economies and the community as a whole. Despite the above factors in the agricultural sector, the country faces challenges from politically motivated decisions taken during the transformation. These decisions lead to land fragmentation and reduced productivity in the industry. Lower yields in agriculture, compared to other economic activities, necessitate support for farmers to ensure their

economic security in crises, to support their incomes to stay in the industry, and to ensure the sustainability of agriculture. agricultural production. In Bulgaria there is a risk management system in agriculture, which is not functionally applied. The insurance sector lags behind the EU-28 average, with a participation rate of 2.1% per capita, compared to 7.6% for most European countries. Insurance in Bulgaria is limited to hail, while losses from drought and floods are not covered.

Economic sphere

Bulgaria has extremely favorable natural and climatic conditions for agricultural development. The agricultural products produced provide food for the population, raw materials for the food industry, fiber, biofuels, medicines and other products for various economic sectors. Agriculture in Bulgaria is characterized by a polarized farm structure. (Agricultural Report, MAF, 2020). The share of small farms in our country, despite the reduction process, is much higher than the EU-27 average. Small farms provide employment and economic activity in rural areas. During the period 1991-2018, the burden of agriculture as a percentage of GDP decreased (Chart 1).

Graph 1. Relative share of agriculture in Bulgaria's GDP in%

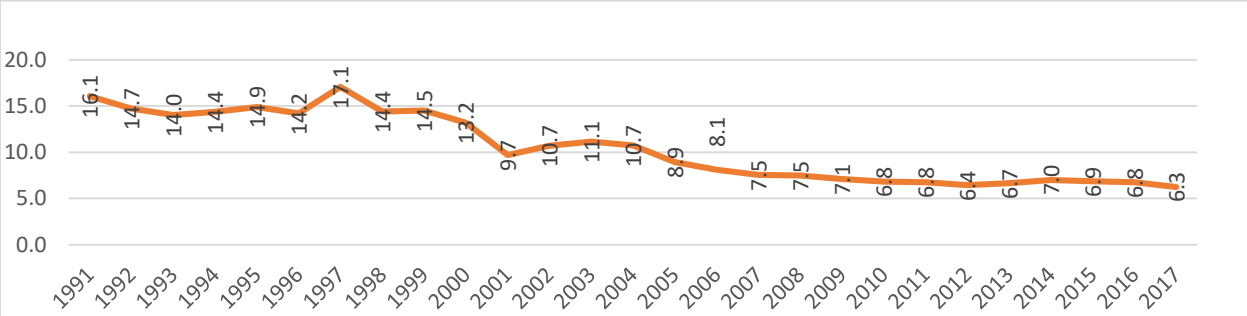


Source: calculated by the author according to NSI data

Social environment

The social environment in Bulgaria in the last thirty years is characterized by features typical of most countries in transition, namely: a sharp decline in living standards, rising unemployment and more. The free movement of people posed another problem for the country's agriculture - the reduction of the labor force. More and more villagers are migrating to cities because of better infrastructure, more amenities and access to institutions (Figure 2).

Graph 2. Employed in agriculture in% of the employed in the country



Source: calculated by the author according to NSI data

In the case of Bulgaria, the increase in the aging population, the social burden of insufficient resources in pension funds and their combination with low wages, force a large part of the young population to look for work abroad. This leads to labor shortages, lowers competitiveness and prospects for agriculture. In order to overcome these negative processes and trends, it is necessary to introduce modern technological solutions in Bulgarian agriculture.

Technological environment

Agriculture continues to look for opportunities to innovate in order to remain economically competitive and meet the challenges of sustainable development. This is in the spirit of improving the PESTLE model. The introduction of high-tech solutions in agriculture offers opportunities for savings throughout the value chain. This includes a shift to transport and logistics automation, which will shorten the distance between agricultural products and consumers and create the conditions for faster and more accurate inventory management in warehouses and retail stores.

Legislative environment

The Bulgarian sectoral legislation outlines three main ones in law: the Law on the Ownership and Use of Agricultural Land, the Law on Lease and the Law on Support for Agricultural Producers. After 2007, they are synchronized with the acquis communautaire. Each of the laws during the period under consideration is subject to dynamic changes, which leads to a changing institutional environment and hence unstable economic processes. The realization of the production and the functioning of the markets depends on the stable legislation and political environment. The process of restoring land ownership "in real terms" according to the Law on Land Acquisition leads to its economically unjustified fragmentation. The way the land reform was carried out "landed" numerous heirs of former owners. Some of the new landowners are burdened by the new acquisition, as they live in another locality and have a professional profile different from that of the farmer.

Ecological environment

Bulgaria, as a country with favorable natural and climatic conditions for agriculture, has significant environmental problems. Some of them result from non-compliance with environmental laws, lack of "environmental discipline" and others. This provoked the adoption of the Law on Environmental Protection in 2002. At the same time, EU legislation became imperative for the Bulgarian agricultural producer. The increased content of fertilizers in the soil leads to the ingress of nitrogen and phosphorus into water basins, which in turn leads to eutrophication. This impairs biodiversity, which is of high strategic importance.

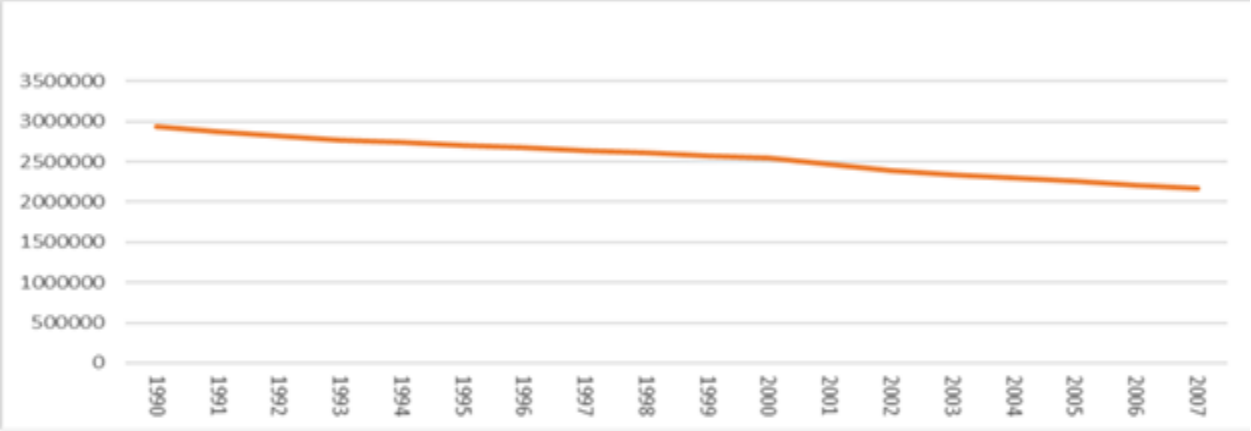
Four levels of socio-economic analysis

Land relations in the period of transformation

Level 1. During the period 1991-2007 in Bulgaria there were significant changes in the appearance of agriculture, the village as such and the value system of the Bulgarians. Depopulation of villages and permanent relocation of labor to the city began (Figure 3). The social order in the previous period and the planned economy lead to separation from the village and complicate the process of assessing the value of land as an economic asset. After restitution in real terms, agricultural land is owned by a generation that has a different social image and livelihood. In this way, much of the land remains out of business. Social preconditions during the transition to a market economy play the role of a catalyst for land relations. In Bulgaria, the usual land rights in societies are usually created following traditions and ways of granting land use rights by community members. These

access rights may apply for a long period of land use. They are often rights developed by previous generations in land use.

Graph 3. Population in rural areas



Source: NSI data

Level 2. In Bulgaria the custom of hereditary transfer of land is interrupted by the processes started during the planned farm. Many of the heirs have no connection with the land and have never been part of the cultivation and maintenance processes. This leads to a permanent migration of the rural population to the cities due to the lack of a land-farmer connection. The effect of restitution can be called "Via naufragii" or the path of division (breaking up). After the division of the land already consolidated in the period 1944-1989, many owners of small plots of agricultural land appeared. This is due to the emergence of a large number of heirs when returning the land in real terms. It creates a new economic environment, and the old system of economic relations changes in order to respond to objective social and economic processes. The open capital market, in turn, strongly influences the classical land-labor-capital chain and with its neoclassical spirit shifts the view from the land to capital, but only seemingly. Significant processes of change are taking place in the primary sector and in the policies of land use and land tenure, which have marked Bulgarian agriculture for decades to come. Structural changes, as well as those in the regulatory framework (Chart 4) are the root cause of a number of other unresolved issues to date and, like the domino effect, mark the Bulgarian economy as a whole. The final economic results and the current state of the industry are an empirical basis for explaining some of the current problems caused by the transition to a liberal economy in our country. In other countries, where this model of transition is working, this is due to tradition and its establishment over time and the practice applied in preparing farmers for land use as a major factor of production and maximizing cost recovery. This is due to the type of societies in which the connection of farmers with the land is not broken, this systemic connection is analyzed in level 1.

Graph 4. Amendments to the legislation of Bulgaria related to the land 1991-2007

Source: Author's graphics prepared under the Law on Land Acquisition, the Lease Act and the Law on Land Acquisition

The average size of agricultural land in our country is in a wide range in different areas (from 0.29 to 1.74 ha), which has a negative impact on agricultural production. In areas with a low average size of land, land use is difficult, users are experiencing greater than usual difficulties in concluding contracts for use with owners or their heirs, expressed on the one hand in the recruitment of smaller areas for use, and from another - the presence of a large number of heirs, most of these processes are discussed in Level 4 of the analysis. Legislation during this period is one of the main reasons for the above results in the distribution of agricultural land. Political decisions and unjustified changes in the institutional environment lead to a decline in the socio-economic conditions of Bulgarian agriculture. Many of the lands during this period were deserted, although before returning to real boundaries they were part of the country's sustainable agricultural structures. In turn, this leads to a loss of positions in the production of traditional export goods, for which Bulgaria has comparative advantages. The end result of the above changes is a reduction in the contribution of agriculture to GDP and GVA in the national economy.
Level 3. After 2004, the growth rate of land prices is many times higher than inflation. The period in which inflation would have a greater impact on the price is from 2000 to 2003. Subsidies for producers in Bulgarian agriculture are the main source of funding received under the EU SAPARD pre-accession program.

Graph 5. Distribution of payments by SAPARD projects 2001-2009

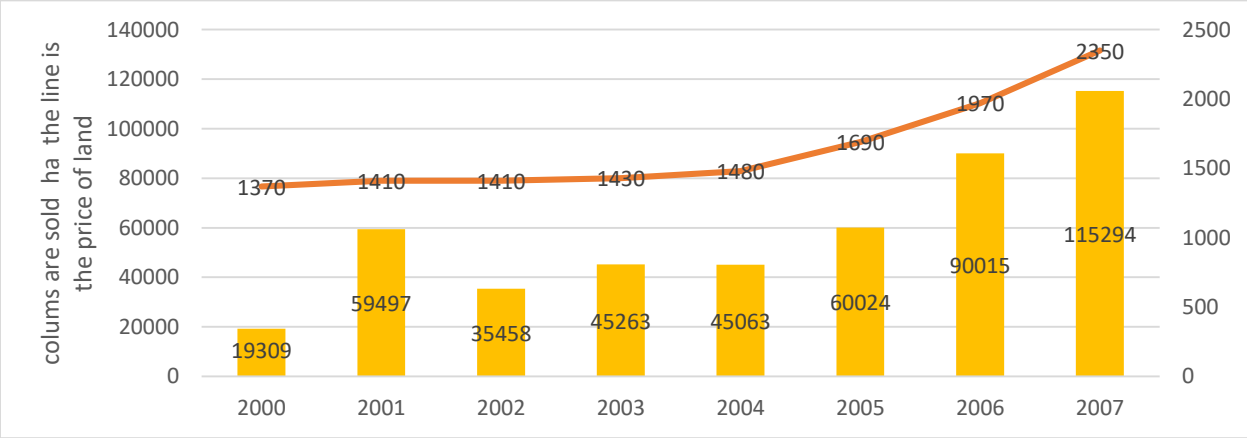
Source: green: lost money from unfinished projects; yellow: planed budget for projects; orange: paid projects by data from SAPARD

During the period of implementation of SAPARD from unfinished projects significant benefits were missed. Almost a third of the total project amounts have not been used (Chart 5). Small farms

have not applied for funding under the program. There are very few implemented and approved projects for the renovation of dairy farms, which mainly stems from the problems with the poor quality of products for processing. The realized investments are mainly for large enterprises, while at the same time a large part of the enterprises with obsolete equipment are not supported and drop out of the market. One of the main problems in the implementation of the Program is the lack of capital in the field of human resources and the lack of sufficient capacity to absorb the money. Small producers are pushed out of the market at the expense of large ones. In conclusion, in Bulgaria SAPARD leads to improved results for large entrepreneurs and producers in agriculture, at the expense of the middle in the lower quintile of the group and small. The program also contributes to the increased pollution due to the lack of measures and practices for sustainable agriculture and responsibility of the beneficiaries for environmental protection.

Level 4. Allocation of resources. They consider the land tenure and land use in the country in the period 1990 - 2007. The data are from SAPI EOOD and MAF and most of them are after 1999 due to the lack of such comparable from earlier years in the period. An analysis of the capitalization of rent and land will not be made at this level due to the widespread practice of paying rent in kind, which cannot be calculated and added to the real or mixed rent. The above reasons make the analysis of land capitalization through rent, if not impossible, then complicated and inaccurate. The number of land transactions and the area sold for the period 1999-2003 is considered, 1998 is marked as the year in which the agrarian reform and the process of land restitution are completed. In this period in the Northeast region has the highest number of land transactions 60%, while in the Southwest, Southeast and Northwest, they are from 2% to 8%. The land market in the South-West region is the least developed. The Northeast and North Central represent 75% of the land sold and 60% of the concluded transactions. The ratio of transactions and the percentage of land are proportional, which shows that the land sold is not large. Low-income and small farmers in this period can not afford to buy large properties to be more competitive, so larger plots are purchased by large farms, large tenants and non-agricultural companies. At least two important developments from an institutional point of view that affect the land market and are directly or indirectly related to the expectations of increasing support for farmers should be noted during the period under review. One of the factors for the increase in the price of land and the number of transactions is the adoption of the Law on Special Investment Purposes (REITs), which were established in 2004-2005 and began to be constituted on the agricultural land market.

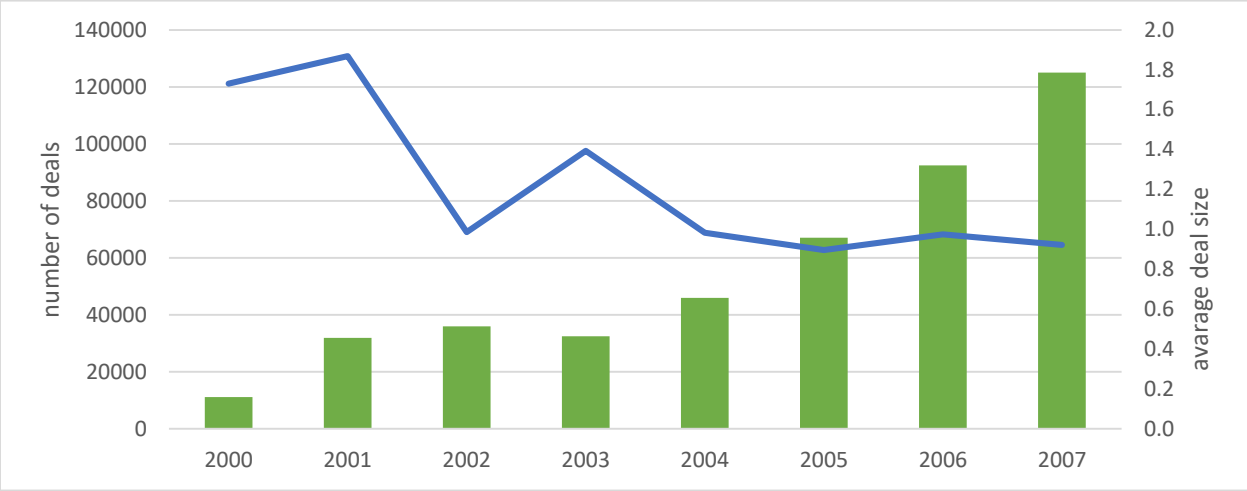
Graph 6. Agricultural land market, ha



Source: SAPI Ltd. to the Ministry of Agriculture (Agricultural Market Information System)

On the other hand, the average size of the plot decreased from 1.8 ha per transaction to 0.8 ha per transaction at the end of the period in 2007. In 2001, 31,840 land transactions were concluded, which is 1/3 more than the previous year. The average size of a plot in 2000 was 1.7 ha, in 2001 the maximum for the period under consideration was 1.8 ha, falling sharply in 2002 to the average levels for the period.

Graph 7. Number of transactions with agricultural land



Source: SAPI Ltd. to the Ministry of Agriculture (Agricultural Market Information System)

After the end of the agrarian reform in 1999, there was an increased demand and supply of land. Many low-income landlords, who have already changed their way of life, are selling the land at lower prices than the real ones in the region. Over time, land prices began to rise and under the pressure of demand. More and more farms are consolidating the used agricultural land, which changes the appearance of Bulgarian agriculture. Due to the continuing operation of the Heritage Act in Bulgaria, problems with undivided land remain. Finding heirs to divide property is becoming more difficult, blocking sales and in many cases leaving land vacant. From a legislative point of view, the dynamic and unjustified changes in the legal framework are accompanied by a number of negative processes for the development of land relations.

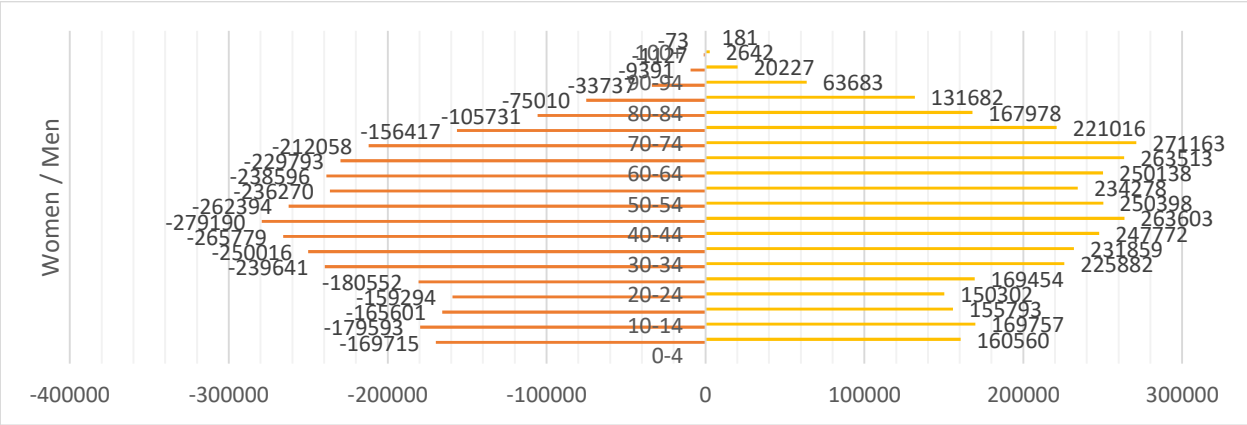
With the opening of EU accession negotiations, the agricultural land market is intensifying. The reason for this is the expected financial assistance from the pre-accession funds. This stimulates part of the population to buy land. More and more people are realizing the future benefits of farm consolidation.

Land relations in the common European economic space

Level 1. The process of population decline continues to deepen beyond 2007 and our accession to the EU. In order to be able to make a real comparison of the process, a population pyramid has been prepared from the beginning of the period and from the end of the period. In 2007, the aging process of the population continues, with the birth rate being low, until 2017 this process has not changed and continues. This in turn leads to an aging population in the villages, relocation of the young population to the cities and aggravates the situation in the Bulgarian countryside. A large part of the working population, which is the majority in 2005 in the range of 30-60 years, in 2017 falls into the aging population (Chart 8). The work in the villages is labor-intensive, which shortens

the cycle of high working capacity and gives up agricultural work to part of the young generation, which was raised in the cities and has no connection with the Bulgarian village.
In the period after our accession to the EU, the problems in the social environment in Bulgaria are deepening, the declining structures of rural institutions and the low standard of living together with rural-urban migration and aging populations are at the heart of the decline of Bulgarian villages. All this leads to problems in the management of land management and the way of their cultivation.

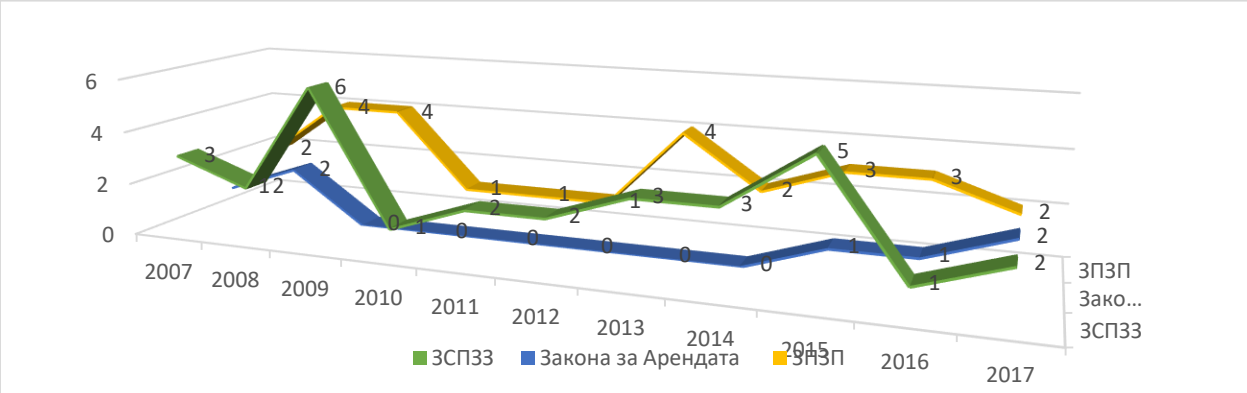
Graph 8. Population pyramid 2018



Source: prepared by the author according to NSI data

Level 2. In 2007, and subsequently in 2014, new provisions were introduced concerning the acquisition and possession of agricultural land by foreigners or foreign legal entities, as well as by citizens of the Member States of the European Union, including by legal entities from these countries, which will be analyzed separately in this chapter. After Bulgaria's accession to the EU and the implementation of the CAP, the observed changes in the legislation are a result of the adaptation of the national institutional environment to European norms and standards. Some of the changes are required in order to prevent unfair practices in the implementation of European measures to support farmers. In the period after joining the EU, the processes of changes in the sectoral legislation in the country continue. This process is a factor for new dynamic changes in land relations (Chart 9).

Graph 9. Change in the legislation with LR in the period 2007-2018



Source: prepared by the author based on changes in Bulgarian legislation

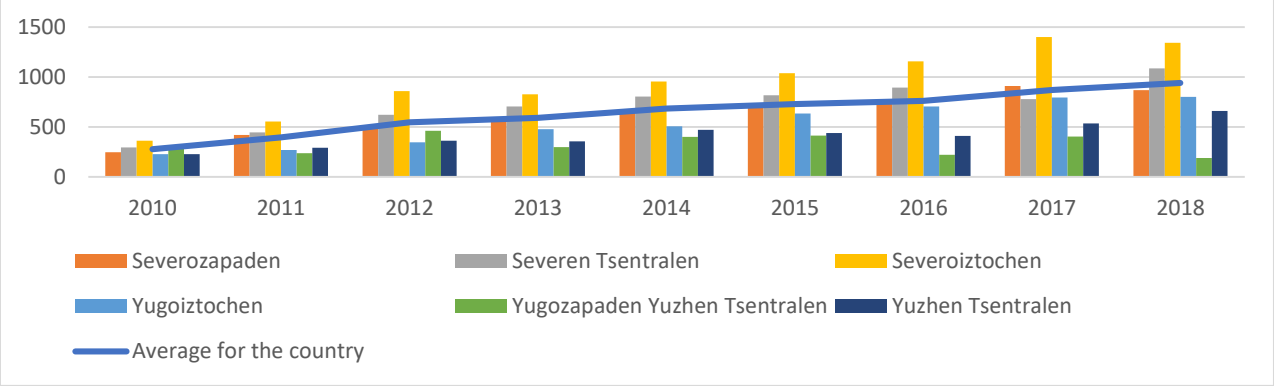
As a result of the land reform, the owners or their heirs currently own their property in real terms and on this basis a map of restored property has been created for each land in the country, which is maintained by MAF until approval of cadastral map and cadastral register. In most cases, the reasons for the still unfinished restitution of agricultural land are due to the fact that the entitled persons are heirs of the third and fourth generation, compared to the time of confiscation of property that is unable to identify the old property boundaries.

The taxation of agricultural subsidies in our country depends on whether they are paid to legal entities or to registered agricultural producers - individuals. If the aid is transferred to a legal entity, it is reported as income. Tax will be charged only if the company reports a profit. Unlike companies, individuals do not keep records of their income and expenses, they do not form a profit and by law their income is taxed, not their profit.

Before a 10% flat income tax is levied on farmers, they are entitled to deduct statutory costs. Farmers - individuals and sole proprietors who produce unprocessed products, deduct 60% of their total income as statutory costs. Farmers who produce processed products deduct 40% of their total income as necessary expenses. The implementation of the Common Agricultural Policy (CAP) in Bulgaria is hampered by land management problems because financial assistance is paid per unit area. Land reform is now formally over. Problems are emerging in the industry due to the irrational identification of land ownership. Most of the land is owned by city dwellers, with almost 80% owned by legators, some of whom have retired or died. At the same time, a large proportion of citizens living in rural areas own little or no land. This is a prerequisite for subsequent fragmentation. The fragmentation of land continues in all regions of the country. The average size of the land property is 0.64 ha and varies from 0.27 ha to 2.03 ha. The average size of the meadows is the smallest - 0.32 ha, and the pastures are the largest - 1.34 ha. The average size of arable land is 0.58 ha. These data are from land restitution, where most of the land is restored to legators, where the number of heirs is about 3-4 people. After the division of ownership, the average size of land has decreased significantly due to the fact that the restrictions in the Inheritance Act on the divisibility of land are very low (Article 72) this trend will increase with each generation.

Level 4. The average market price of agricultural land, regardless of the location, size and purpose of land use, show significant differences from year to year. Since 2010, the percentage of land leased, and the market price of land has been the percentage of capitalization of agricultural land. The average growth rate in the price of rented land should not exceed 6% in the established markets for agricultural land.

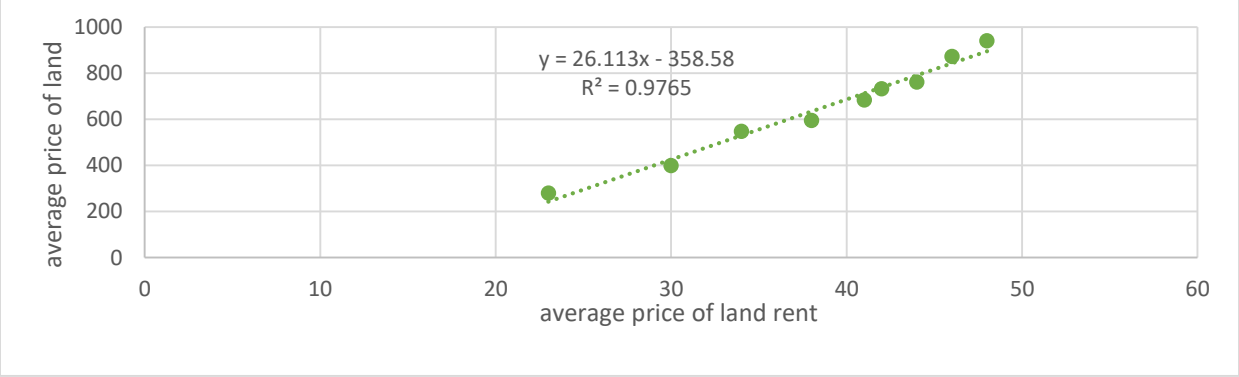
Graph 10. Average price of agricultural land



Source: prepared according to NSI data

An increase in the price of renting agricultural land must not lead to a mismatch between the increase in rents and the increase in prices when the ownership of agricultural land changes or to a disproportionate increase in the price of land. After 2010 the price of agricultural land in the country is growing, throughout the period in two regions the land has prices above the national average and these are the North Central and Northeast. The high quality of the land, the support from the CAP and the specificity of the crops grown in both areas (too often they are commodities) lead to these constant increases in the price of land. In the South-West region, there is at least an average increase in land prices, due to mountainous terrain, strong urbanization and reduced demand for agricultural land. The largest increase in prices in southern Bulgaria is in the southeastern region, where there is a concentration of wine grape varieties and products with higher added value for export. These factors are a prerequisite for a larger increase in land prices in both the South-East and the South-Central region. The size of the area sold is proportional to the number of transactions, changing only where conditions are atypical for the rest of the country. Four of the six regions have a relatively equal number of transactions and a percentage of the area sold across the country - Southwest, Southeast and Northwest and North Central and Northeast. Only in the South-West region there is a decrease in the number of transactions. Compared to the EU, the share of leased land in Bulgaria is more than twice as high. The administrative cost at national level is determined on the basis of the potential of different soil types, proximity to shopping centers and good infrastructure, and a number of factors are taken into account in the assessment. Main factors influencing the value of agricultural land. In most cases, the value of land is influenced by such factors as location, transport accessibility, availability of communications, shape, size and more. When assessing agricultural land, the value is additionally affected by the quality and fertility of the soil. For the period under review, the capitalization is between 8.24% and 17.16% or an average of 13.78%. We believe that the Bulgarian arable land has some unique and very useful characteristics - high return on reporting risk, low correlation (interdependence) to traditional classes of investment assets, strong connection with the growth of an emerging market with low political risk, approaching land prices. EU countries and creating a secure monetary income. Agricultural land in Bulgaria is an undervalued asset, its price occupies the lowest place among land prices in EU countries. The natural price approximation creates an attractive potential for growth of over 10% per year on land in Bulgaria (average for the period under review 17.16%). Another very important reason for growth is the consolidation of individual land properties.

Graph 11. Capitalization of the price of land



Source: Calculated by the author according to NSI data

The degree of this linear relationship, expressed as a correlation coefficient R2 = 0.98, reveals a significant statistical relationship between land prices and rents. NSI data provide information on prices from 2010 to 2018, and in this period, they are constantly moving in an upward direction. If in 2010 the average rent price was BGN 230 / ha, then in 2011 and 2012 it has already increased by BGN 30 and 34. A new increase follows to BGN 380 and 410 / ha for 2013 and 2014, as well as BGN 420 in 2015. In the following years, the price increased by BGN 20 per year - BGN 440 in 2016, BGN 460 in 2017 and BGN 480 / ha in 2018.

CHAPTER THREE: GUIDELINES FOR THE DEVELOPMENT OF LAND RELATIONS

Trends in the implementation of the CAP 2021-2027

Based on the political decisions taken defined in the European Commission's report "REFLECTION PAPER TOWARDS A SUSTAINABLE EUROPE BY 2030", the Paris Agreement, etc., the future CAP focuses on nine objectives, reflecting its economic, environmental and socio-territorial multifunctionality. It maintains both pillars and the two agricultural funds in support of national programs based on an integrated approach. In any case, direct payments (decoupled and coupled) remain a key element of the new CAP. Priorities in the next programming period are: bioeconomy, innovation and research in agriculture, plant proteins, plant and animal health. The development of new production and consumption patterns has also contributed to a more favorable and green development of the CAP. The main focus for the period is climate change and the loss of ecosystems and biodiversity that threaten the well-being of the union, the prospects for sustainable growth and biological cycles on the planet. Biodiversity and ecosystems are increasingly threatened by human activities. Animal-based foods have a particularly high footprint on the ground. The future CAP 2021-2027 continues to provide access to high-quality food and strong support for the unique European agricultural model with an increased focus on the environment and climate, supporting the ongoing transition to a more sustainable agricultural sector and the development of viable rural areas.

Table 2. Development of the average for the country income from land and land rent (2008–2018)

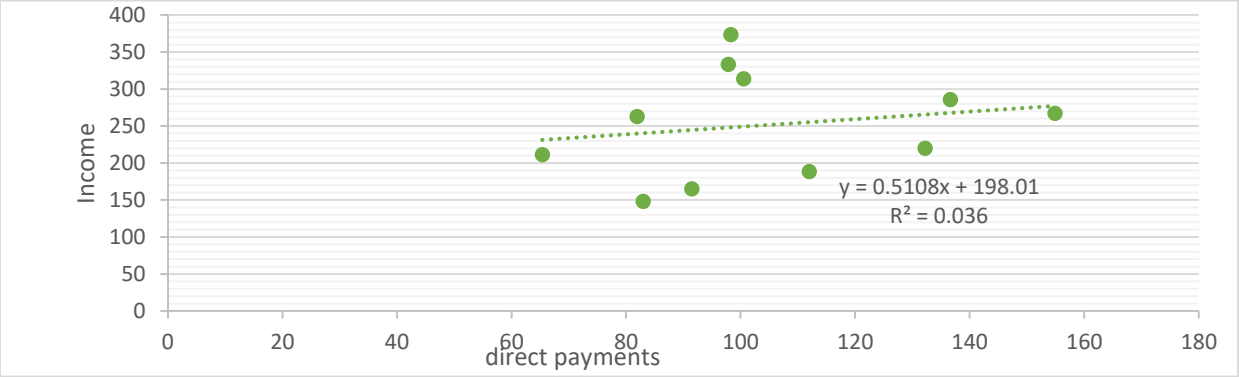
Year	Land		Direct Support [b)]	Market price of arable land	Calculated	
	(factor) income	Rent [a)]			interest rate %[c)]	arable land price [d)]
2018	333.37	240.00	97.86	4705.00	1.25	10586.3
2017	373.54	230.00	98.29	4360.00	1.60	8006.25
2016	313.75	220.00	100.56	3805.00	2.30	3904.35
2015	262.54	210.00	81.95	3660.00	2.50	4000.00
2014	285.79	205.00	136.65	3420.00	3.40	3355.88
2013	266.95	190.00	154.91	2745.00	3.50	3808.57
2012	219.66	170.00	132.22	2735.00	4.50	3600.00
2011	188.12	150.00	112.01	1990.00	5.40	3211.11
2010	164.83	115.00	91.47	1395.00	6.00	2655.00
2009	148.04	105.00	82.98	1560.00	7.20	2644.44

2008	211.12	100.00	65.38	1175.00	5.30	4279.25

Source: NSI, Eurostat, BNB - average interest rate for the year
Note: (a) Land rents; b) SAPS; c) Calculated interest rates; (d) Calculated by interest rates on land.
The data in the table are the result of the application of a land capitalization model studied by the author during his specialization in AKI Hungary (Biró, Sz. 2019. Capitalization of direct payments in Hungary).

In the period 2008-2018 the data reflect the annual changes of the indicated indicators / factors for changes in land use by years. Interest rates are used to calculate the maximum average price that agricultural land could reach. At a low interest rate, the price of land is high and vice versa.
Study of the relationship between factor income and direct payments
The relationship between direct payments (one thousand euros) and land income (one thousand euros) is determined by linear regression, using the average national data for 2007-2017. The result of the installation is the following equation:
Income factor = 0.5108 × direct payments + ε

Chart 12. Factor income as a function of direct payments, 2008–2018



Source: NSI, Eurostat, BNB - average interest rate for the year - own calculations

The information from the graph shows that the relationship between factor income and direct support during the period of linear regression is weak (not statistically significant). Direct payments in Bulgaria have a low impact on factor income, as there are other factors with greater weight.
Study of the relationship between land rent and direct aid
The relationship between direct aid (in euro) and land rent (in euro) is determined by a linear regression using national averages for the period 2008-2018.
Land rent / Rent = 0.6798 × direct payments + ε
The capitalization process is somewhat similar to that of the EU-10. In Bulgaria the most important factor is the rent for land use and the factor income. The process in our country is unstable, which is confirmed by the trends in the capitalization of agricultural land.

Impact of the CAP after 2020+ on regional development
Changes in the EU budget will lead to major changes in both supported policies and agriculture. Many of the measures under the first pillar (income support) will be reduced in support and with a normal structure of agriculture and developed land relations, this would not lead to significant structural changes in land use. Due to the desire for subsidies and sowing of land with subsidized

crops, there will be a decrease in land occupied by crops that will have reduced subsidies / no CAP support.

Table 3. CAPRI model calculations of land use change ha. or a herd

Crops / Changes in income per ha. or animal	Basic data used	Brexit - 15%	Change	% Change (-15% of the CAP budget) + Brexit	% Change (-30% of the CAP budget) + Brexit
Used agricultural land	5,348.27	5,021.11	-327.16	-6.12	-11.38
Cereals	1,847.61	1530.67	-316.94	-17.15	-31.91
Oilseeds	1,163.61	1331.27	167.66	14.41	26.80
Other crops	139.20	45.67	-93.53	-67.19	-124.97
Vegetables and perennial crops	159.72	185.49	25.77	16.14	30.01
Fodder	1,879.97	1862.84	-17.13	-0.91	-1.69
Fallow	158.18	65.15	-93.03	-58.81	-109.39
All livestock activities	377.96	403.15	25.19	6.66	12.40
Beef cattle	69.98	75.18	5.20	7.43	13.83
All dairy cattle	307.98	327.97	19.99	6.49	12.07
Other animals (pigs, etc.)	272.88	500.69	227.81	83.48	155.28
Other animals (birds, etc.)	0.69	0.88	0.19	28.27	52.58
All agricultural activities	5,999.11	5021.11	-978.00	-16.30	-30.32

Source: CAPRI model calculations

With the reduction of the EU budget, major changes are taking place at national level. In Bulgaria after 2020, there are adjustments and changes in the crops grown and dynamics in the areas set aside, in areas occupied by other crops, which include: legumes, potatoes, sugar beets, flax and hemp, tobacco, other technical cultures. In the country's agriculture, and in particular in the livestock sector, changes in the EU budget can also lead to positive changes, such as an increase in livestock units. Modeling results show much greater diversity for possible structural changes in the Livestock sub-sector. However, it was found that the main market forecasts in the application of the CAPRI model have a strong influence on the potential impact of changes in the budget, which is why, especially in animal husbandry, the results of the modeling will be interpreted very cautiously.

The agricultural situation in Bulgaria in the absence of the first pillar

The biggest changes stand out in the fallow land (Table 4). Although compulsory set-aside was abolished in 2009, many farms in Bulgaria

Table 4. Changes in used land or herd in the absence of the first pillar.

	Size of land or herd used (1000 ha or 1000 heads)			Compared to basic data
Crops / Changes in income per ha. or animal	Basic data used	Scenario 1 (without first pillar)	Absolute change	Percentage change
Used agricultural land	5,348.27	4,865.96	-482.31	-9.02%
Cereals	1,847.61	1,769.28	-78.33	-4.24%
Oilseeds	1,163.61	1,111.71	-51.90	-4.46%
Other crops	139.20	134.12	-5.08	-3.65%
Vegetables and perennial crops	159.72	157.61	-2.11	-1.32%
Fodder	1,879.97	1,650.20	-229.77	-12.22%
Fallow	158.18	43.06	-115.12	-72.78%
All livestock activities	377.96	359.14	-18.82	-4.98%
Beef cattle	69.98	60.58	-9.40	-13.44%
All dairy cattle	307.98	298.57	-9.42	-3.06%
Other animals (pigs, etc.)	272.88	263.52	-9.36	-3.43%
Other animals (birds, etc.)	0.69	0.69	0.00	0.00%
Pastures	1,675.11	1,440.86	-234.25	-13.98%
Cultivated agricultural land	3,673.16	3,425.10	-248.06	-6.75%
All agricultural activities	5,999.11	5,488.63	-510.48	-8.51%

Source: own calculations with CAPRI

continue the practice due to the high payments under the measure. For set-aside land, the EU pays additional measures and payments to leave areas uncultivated. Without these payments, many landlords will prefer their land to be cultivated and generate income. A big change is observed in the use of pastures -13.98%. Cultivated agricultural land also decreases with a decrease in direct payments per unit area. Another significant change is observed in beef activities. Due to the reduction of pastures and the difficulty of raising animals, there is a decrease of -13.44%. They also reduce the size of herds in dairy cattle. The study shows that cow's milk production in Bulgaria is economically unsustainable and will be jeopardized if support for farms is reduced. The large difference between the cost and purchase prices determines the retention of a significant part of the milk produced on farms and its subsequent direct sale or processing into dairy products. For 2016, the average productivity of dairy cows in the country is 3.77 points per year (EC, 2020A), ie. 12.6 kg. raw milk per day and the cost per kilogram of milk is BGN 0.87, with a purchase price for 2016 of BGN 0.53 / kg. (EC, 2020B).

The analysis highlights inequalities / imbalances resulting from the application of the CAP in Bulgarian agriculture. Despite the overall positive impact that the CAP has on the business environment in the sector, First Pillar support is also at the root of many imbalances and problems. Solutions to these problems would be the zoning of assisted crops in micro-regions in order to eliminate the existing monoculture, stopping the cultivation of crops in places where there are no suitable natural resources (climate, soil, humidity, etc.). Sustainable development of animal husbandry requires the creation of cooperative dairies and specialized products on a regional basis, which are specific so as not to compete with each other in the market. Bulgarian animal husbandry is highly dependent on support, which speaks of the need for incentives from the state. The optimal option is to support the production of a unit of production, which leads to a clarification of the

activities in animal husbandry and support for quality milk, which will lead to higher yields and sustainability of farms and the sub-sector.

SUMMARY:

As a result of the dissertation research, the author finds that each of the factors influencing the institutional environment has a significant role in shaping the economic situation in which agriculture operates and the improvement of land relations. The political environment and the legislative framework for the state of the socio-economic environment and the maturity of public relations in agriculture are extremely important.

Four hypotheses have been developed, which determine the development of land relations in Bulgarian agriculture under the influence of the institutional environment. Based on the research and the application of the "Four Factor Socio-Economic Analysis" confirms the thesis of the dissertation that the problems associated with PO are fundamental to the state of agriculture and the place of industry in the economy as a whole.

To test the hypotheses, the factors influencing land use and land tenure in Bulgaria were analyzed and assessed.

The first hypothesis of the study was confirmed that the transition from a planned to a market economy without economic analysis and an appropriate legislative framework, in the implementation of purely political decisions, leads to inefficient use of land ownership.

Based on the analysis, it is confirmed that the restitution processes are chaotic, the legislation dynamically changes the institutional environment, burdens the bureaucratic structure, which hinders the normal functioning of the two segments of land relations - land use and land tenure. This proves the second hypothesis.

The analysis made after the country's accession to the Common European Economic Area confirms the third hypothesis: The institutional norm of the CAP is an essential factor for maturing land relations, activating the market and improving land use and land tenure.

The dynamic changes in the land relations have an active influence on the economic environment for the functioning of the agricultural sector in our country and are an essential feature of the fourth hypothesis, which is also confirmed in our dissertation research. The processes studied at the four levels of socio-economic analysis highlight the importance and necessity of continuing to conduct accurate and sound economic analysis at each of the levels (social, institutional, managerial and resource allocation) for shaping the appearance of Bulgarian agriculture in different periods.

Based on the critical reading of economic theories, the place and role of land in economic practice and the importance for the development of social relations stand out. After this review, the most significant and relevant theories for the study stand out, as the author rejects the ideas of the neoclassical school, where the role of land has been transferred to capital. In our opinion, the earth has a specific role in economic theory and we have adopted the view of the classical school, which distinguishes the triad: land, labor and capital. The importance of the processes in the use of land resources in different epochs is presented and the influence of the dynamics of these processes in the formation of economic theories, schools and directions is highlighted. The review of the schools shows that even in their infancy the strong influence of the institutional environment stands out, which highlights the nature and importance of the institutional norm that dominates the development of land relations in economic terms, as public relations in the primary sector. In view of the theoretical review of schools and a number of applied methodological solutions to highlight the role of land relations and approbation of specific methodologies, a selection of working

methods is made based on a similar institutional environment and economic situation with countries with similar socio-economic model of development. Based on the chosen methodology, a structured study of the impact of the institutional environment on land relations is made. The clear definition of the restrictive conditions in the research is decisive for the objectivity and relevance of the scientific results.

PESTLE analysis highlights the strengths and weaknesses of each of the factors that affect the business environment. The political environment and the dynamic legislative framework do not favor the full development of the economic system in agriculture, which also affects the social environment. This, in turn, does not allow the optimal repayment of the applied technological solutions and reduces the opportunities for improving the ecological environment in agriculture. The PESTLE analysis proves that the political environment and the institutional norm derived from it are the basis for improved and facilitated economic development. In the period of transformation, the changes in land relations are carried out with the motive to restore justice, which implies decisions in dissonance with the development of the economic system in agriculture. After the disintegration of the planned economy, the decisions taken to change the institutional environment result in many imbalances in the agricultural system. Some of the problems in the industry after the dismantling of the planned economy are transferred after Bulgaria's accession to the EU-27. The new institutional framework leads to inequalities and a dynamic economic situation, with different influences in the sub-sectors and sectors of Bulgarian agriculture. Based on a study of the capitalization of agricultural land in Bulgaria after our accession to the EU, we conclude that the most important factors are land rent and factor income. Changes in income as a result of the CAP lead to the consolidation of farms, the seizure of land from large economic structures. The study of land capitalization shows that the prices of agricultural land in Bulgaria have not yet reached the optimal value and size. The prices for renting agricultural land are dynamic and do not follow the value created by the cultivated crops. In Bulgaria, the return on investment in agricultural land is particularly high and when reviewing the period of payment through rent we find that the payment is for 10 years. It is faster than the period in countries with developed land relations (25-year period).

In the country's agriculture, and in particular in the livestock sub-sector, changes in the EU budget can also lead to positive changes. The results of the modeling show a much greater variety of possible structural changes in the sectors in the Livestock sub-sector. First pillar support is the basis for the manifestation of disparities / imbalances in agriculture. The change in the way of support would lead to favorable effects for the restoration of intensive production in Bulgarian agriculture. Many small and medium-sized farms would continue to stagnate and disappear from the market. Without the necessary support, they run the risk of remaining unviable.

III. REFERENCE ON THE MAIN SCIENTIFIC AND SCIENTIFIC-APPLIED CONTRIBUTIONS IN THE DISSERTATION

- The significance of the problems in the study of the use of land resources for the development of economic theory, for the evolution and improvement of economic schools in historical terms and in modern times is presented;
- The complex influence of the factors, dynamizing the institutional environment in the Bulgarian agriculture is revealed. Applied PESTEL for the first time in the analysis of agriculture and the study of land relations in our country.

- Adapts the current theoretical model for the Four Levels of Social Analysis, which ensures the application of holism in (analysis of the institutional environment) study of the relationships between the development of land relations and their impact on socio-economic changes in agriculture.
- Detection of imbalances in Bulgarian agriculture in the application of the innovative EU CAPRI model.

IV. LIST OF PUBLICATIONS ON THE TOPIC OF THE DISSERTATION

Mihailova, M. (2020). The state of agriculture in Bulgaria - PESTLE analysis. In: Bulgarian Journal of Agricultural Science 5 (26): 935-943. 2020

Mihailova, M., Yovchevska, P. (2021). Synergy between EU Policy and Good Management of Land Resources in Bulgaria In Regional formation and development studies, Journal of Social Sciences No. 2 (34), Klaipeda, 2021, p. 119- 130 ISSN 2029-9370

V. DECLARATION OF ORIGINALITY

I declare that the present dissertation is entirely an author's research and, in its development, foreign publications and works have not been used in violation of their copyright.