Comparative and absolute competitiveness of governing structures in Bulgarian farming

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Comparative and Absolute Competitiveness of Governing Structures in Bulgarian Farming[1]

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Abstract: Farm is an abstract category in Economic theory for describing agents managing farming activity, while the real governing structures are farms of different juridical types. Farm's competitiveness is inadequately assessed through technical and accountancy efficiency, factors' productivity, profitability, market shares, etc. because critical governance aspects are ignored. Article suggests a holistic framework for assessing farm' competitiveness taking into account economic, financial and governance efficiency, and evaluates absolute and comparative competitiveness of governing structures of Bulgarian farming. The assessment system includes four pillars, four criteria, 17 particular and 5 integral indicators. First in-kind evaluation, based on survey data, found that competitiveness of Bulgarian farms is good. Competitiveness of cooperatives is highest, followed by corporations and associations, sole traders, and physical persons. Critical for competitive positions of farms are: low productivity, income, financial security, and adaptability to natural environment, where public support and farms' management strategies should be directed. Large shares of country's farms have low competitiveness, and if measures are not taken by improving management, restructuring, state support, etc., many farms will cease to exist in the near future. In some cases, other characteristics of governing structures like size, specialization, market orientation, and ecological location, are critical for determining competitiveness level.

Keywords: competitiveness, economic, financial, and governance pillars, governance structures, farming, Bulgaria

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1. Introduction

The question of a proper understanding and evaluation of the levels and factors of competitiveness of governing structures of farming activities (farms of different type), have been among the most topical academic, ago-business, and policies issues [1-4]. There are numerous publications on the competitiveness of farms of different sizes [5-12], in major agrarian industries [5, 11, 13-19], diverse farming systems [17-18, 20], specific geographical and ecological regions [9, 11, 17, 21], its key driving factors [6, 10-11, 18, 22], etc.

In the Economics theory the Agricultural Farm (or Firm) is an abstract category for describing the agent(s) managing and/or carrying out farming activity. However, the real governing structures in agriculture are the farms of different (juridical) types such as one person, family, cooperative, corporative, public, etc. farms [23]. The later classification is also broadly used by the international and governmental agencies, professional organizations, business community, counterparts in supply and agri-food chains, official (agro)statistics, and most researchers and experts in the area. Nevertheless, there are few profound evaluations on the absolute and comparative competitiveness of farms of different juridical types, mostly qualitative ones.

Another key starting point of the modern economic analyses is the "existence" of market and market competition ("invisible hand of market") - "in the beginning was market". In fact, that has not always been true: in not distant past during the Communist period in the Central and East European countries, market competition (governance) was not important. For a long period of time a different type of "competition" for centrally distributed targets, quotas, resources, etc. dominated the life of farming agents (structures) – namely central planning governance. Accordingly, a quite specific approach and set of indicators were used for assessing farms efficiency, viability, etc. The same was true for the first years of the post-communist transition when different governance structures coexisted for a long period of time – subsistence holdings, public farms under reorganization, privatization and/or liquidation, unsustainable farming structures based on provisional, not specified or badly specified and enforced private ownerships on lands and other resources, etc. Nevertheless, universal framework for assessing farm competitiveness is broadly recommended and practically used independent of the specific governance system of a particular country, subsector, region, ecosystem, historical period, etc.

In the modern market economy, the competitiveness of farming enterprises has been predominately assessed through traditional indicators of technical and accountancy efficiency, factors' productivity, profitability of activity, market shares, etc. However, the critical governance aspects of farm competitiveness, have been some-how ignored by most of the assessment frameworks. The later has impeded the adequate understanding and assessments of the "real" competitiveness, efficiency and sustainability of diverse governing structures that can be seen in contemporary agriculture. Consequently, many "strange" phenomena observed around the world are staying unexplained by the dominating economic orthodoxy like: why in certain periods,

subsectors, regions, ecosystems, etc. often coexist diverse farm governance structures, while in others only some or a single one prevail; why there are significant variations in the competitiveness and (production) efficiency levels of different type of farming enterprises; why there are so many low efficient but highly sustainable farms in certain subsectors or regions; why some highly profitable, productive and "competitive" farms are unsustainable and constantly disappearing; why competition for re-sources and buyers do not bring to equal (Neoclassical Economics) efficiency in all farms; why there are various kinds of economic (governing) organizations in farming at all, etc.

Therefore, the first important issue tackled in this article is how to adequately assess the "real" competitiveness of major governing structures in modern Bulgarian farming – the farms of different type: unregistered individual, family or group farms, registered agro-firms, cooperatives, corporations, etc. It is logical to presume that "rational" agrarian agents will tend to select or design such a mode for governing their farming activities and relations which is most efficient (competitive) in their specific conditions [24].

Incorporations of the interdisciplinary New Institutional Economics assumptions and principles give new insights on many phenomena related to the economic organizations in modern agriculture [25-26). For instance, there has been a "successful" ex-planation of "high" efficiency and sustainability of dominating farming structures in the post-communist transition and the EU integration of Bulgarian agriculture [27]. However, it has been somehow "strange" that most framework evaluating the competitiveness of governing structures in farming stay blind to important governance efficiency of farms.

In recent years, a novel comprehensive approach for understanding and assessing the competitiveness of governance structures of farming activity was suggested, operationalized, experimented and gradually improved [20, 28]. In addition to the production and the financial efficiency, that new holistic framework takes into account the governance aspects of farms' ("competitive") potential to compete in a certain market, institutional and natural environment. Both current and long-term governance efficiency are included though assessment of farm' adaptability and sustainability. That new approach has been already applied for the assessment of competitiveness levels of Bulgarian farms in general and farms with different product specialization using macro (agro-statistical) and micro (survey) economic data [28-29].

However, there are no comprehensive assessments of the competitiveness of major governing structures of Bulgarian farming – the farming enterprises of different juridical types. Neither, there have been studies for revealing the specific relations of the competitiveness level of governing structures with other key features of farms such as operational size, market orientation, product specialization, ecological and geographical locations, etc. Therefore, the second issue delt with in this article is whether there are other critical factors, besides the governance mode, determining the competitive-ness of farming strictures in Bulgaria. If that is the case, there might be other (besides governance form) reasons for existence of certain farming structures, which are to be identified and studied.

The goal of this paper is to incorporate a holistic multi-pillars framework taking into account the Economic efficiency, Financial endowment, Adaptability and Sustainability of farms, and assess the absolute and comparative competitiveness of major governing structures of Bulgarian farming. Implementation of that new approach helps to solve the economic "puzzle" of the content and critical factors of farm's competitiveness, reveal the relations between farm's competitiveness, efficiency and sustainability, gives a new insight on the competitiveness level and prospects of evolution of diverse farming structures, and specify the importance of legal, operational, product, and territorial dimensions of farms at current stage of development in Bulgaria.

2. Materials and Methods

In this study a comprehensive and holistic framework for assessing the competitiveness of Bulgarian farms is incorporated including their production, financial and governance ability to compete in the specific market, institutional and ecological conditions. Detail presentation and justification of applied framework was done in previous publications [20, 22]. According to the suggested more adequate understanding, the competitiveness of a farm means the capability (production, financial and governance potential) of an agricultural holding to maintain sustainable competitive positions on (certain) market(s), leading to high economic performance through continuous improvement and adaptation to changing market, natural and institutional environment [22].

The main “pillars" (aspects) of farm competitiveness are Economic efficiency (Production Pillar), Financial endowment (Financial Pillar), Adaptability (Governance Pillar for current governance efficiency) and Sustainability (Governance Pillar for long-term governance efficiency) (Figure 1). Subsequently, Good competitiveness refers to the state in which a farm (1) produces and sells its products and services efficiently on the market, (2) manages its financing efficiently, (3) is adaptable to the constantly evolving market, institutional and natural environment, and (4) is sustainable in time. On the other hand, a low or lack of competitiveness means that the farm has serious problems in efficient financing, production and sale of products and services due to high production and/or transaction costs, inability to adapt to evolving environmental conditions and/or insufficient sustainability over time.

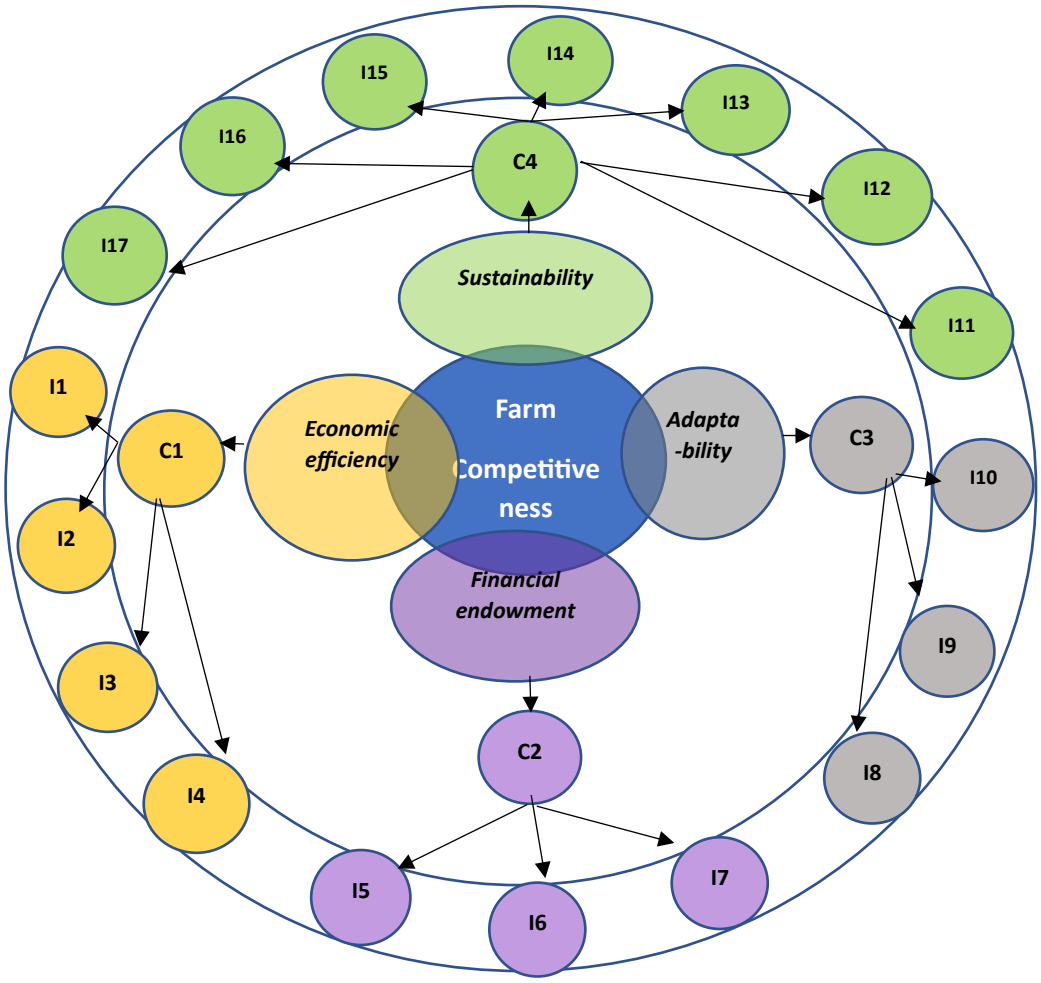


Figure 1. Framework for Assessing Completeness of Bulgarian Farms

For evaluation of the level of competitiveness of Bulgarian farms, a network sys-tem of 4 criteria for each Pillar and 17 particular indicators are selected (Figure 1). For instance, assessment criteria "Sufficient Economic efficiency", "Sufficient Financial endowment", "Sufficient Adaptability", and "Sufficient Sustainability" are used for each of the pillars of farm's competitiveness. Accordingly, appropriate Indicators for each Criterion are selected to measure the level of compliance with a particular Criterion. For the Economic efficiency and Financial endowment aspects of the competitiveness widely used traditional Indicators are used such as:

Labor productivity, Land productivity, Profitability, and Income levels, and Profitability of own capital, Liquidity, and Financial autonomy.

For the other two aspects of farm's competitiveness, related to the governance efficiency, "new" Indicators are suggested. For assessing the governance structure's potential for adaptation (current governance efficiency) three measurements are select-ed: Adaptability to the market environment (market demands, prices, preferences, norms, etc.), Adaptability to the institutional environment (formal and informal rules, regulations, standards, etc.), and Adaptability to the natural environment (agro-environmental conditions, climate change, etc.). The governance structure's Sustainability (long-term governance efficiency) is determined by assessing the "level of problems and costs" for the effective supply of the necessary for the farm factors of production (land and natural resources, labor, inputs, services, innovations, and finance), and for the effective utilization and marketing of farm's products and services. Detailed justification of that novel approach for assessing farms sustainability is done by Bachev [27].

Evaluation of farm competitiveness is made at three interconnected levels – individual competitiveness Indicators, individual competitiveness Pillars, and overall competitiveness. For the later two levels five integral indicators are suggested - Integral Aspect index (for each of the four Pillars) and the Overall Competitiveness index. That approach allows both to assess the absolute and comparative (to other governing structures) competitiveness level, to specify the competitive potential of a farm for each pillar, and identify critical factors giving competitive advantages and disadvantages (individual Indicators) of a farm. Individual competitiveness indicators often indicate quite different (unconvincing or even controversial) competitiveness of a farm which necessitates "co-measurement" and integration of indicators. In order to integrate individual indicators value with specific measurement units they are to be transferred into unitless indices which make co-measurement, comparison and integration practically possible.

The aggregate competitiveness index of farms of a particular juridical type is calculated as an arithmetic average of the competitiveness of the farms in the corresponding group. In addition, for each district legal type of farming, the aggregate competitiveness indices are calculated for the relevant farms with different operation-al size, market orientation, product specialization, and ecological and geographical locations. The later, demonstrate whether there are other important characteristics of farms (like size, market orientation, product, ecology, location) which are critical for differentiation of competitiveness level. The specific size, market orientation, specialization, and location categorization of each farm is done (self-selected or self-determined) by the farm manager according to the official classification of agri-cultural farms in Bulgaria and European Union.

The distinct and available alternative governance structures of contemporary farming activity in Bulgaria (supported by different Laws and Regulations such as Trade Law, Cooperative Law, Regulation for Registration of Agricultural Producers, etc.) are: Physical persons, Sole traders,

Cooperatives, Corporations, and Associations[3], which in 2020 account for accordingly 91.4%, 1.3%, 0.54%, 6.5% and 0.21% of the total number of farming enterprises in the country [29]. There are no available statistical, accountancy, report, etc. data for comprehensive assessment of the absolute and comparative competitiveness of farming enterprises in Bulgaria. Therefore, the competitiveness levels estimates in this study are based on the first-hand (survey) micro data collected from the managers of 319 "typical" farms of different juridical types in Autumn of 2020. The primary information was collected by the National Agricultural Advisory Service and major Agricultural Producers Organizations, and the structure of surveyed farms approximately corresponds to the real farm structure in the country.

During the survey, the farm managers provided relevant information for calculating competitiveness indicators of their own holdings. For the Economic efficiency and the Financial endowment pillars the indicators were calculated in the specific units such as Income level in Euro per Utilized Agricultural Area or per Labor unit, etc. For Adaptability and Sustainability Pillars the qualitative assessments of managers were used – e.g. serious, normal or no problems and costs associated with the effective supply of the necessary for the farm lands, labor, inputs etc. Besides, the managers were given possibilities to select one of the three levels (Low, Good, or High), which most closely corresponds to the condition of their own enterprise, for all indicators. Previous and parallel assessments using specific and qualitative assessments of the managers have shown similar results for the competitiveness level [20, 28]. Therefore, in this study, only qualitative assessment of the managers were used for calculating all competitiveness indicators to avoid problems (difficulties, controversies) for adequate ranging and co-measurement (integration) of the specific indicators' levels. Qualitative assessments have another big advantage since they give insights on farm's status and potential overcoming misleading caused by the "normal" (for Bulgaria) but considerable fluctuations of economic and financial indicators values over time.

There is no other agent but the Farm manager who knows the best and can judge precisely the (absolute and comparable) status of their holdings for each of competitiveness indicator. Thus, besides being the only feasible option that approach for primary data collection has been also most precise one for the practical experimentation of the new framework for assessing competitiveness of Bulgarian farms. Moreover, previous experimentation of the new framework using micro (farms survey) and macro (statistical) data for assessing farms' competitiveness in general and with different product specialization in Bulgaria gave similar results which proved that using farm survey data is reliable [28-29].

The qualitative evaluations of the farm managers were transformed into quantitative values, as the High levels were valued 1, the Intermediate ones 0.5, and the Lows ones 0. Following that, for each of the surveyed farms, an Integral Competitiveness Index is calculated for individual pillars and as a whole, as arithmetic averages. The competitiveness indices of the farms with

[3] In Bulgaria, there are no any legal restrictions for setting up farms and carrying out farming activity by agents through any of the legal entities in the country.

different types (legal status, size, region, product specialization, etc.) were calculated as an arithmetic average from the individual indices of the constituent farms in the particular group. An equal weight is given for individual indicators and pillars as well as for each of the surveyed farm during integration of all indices. Differentiation of importance (weight) of competitiveness pillars is by definition unacceptable while differentiation of importance (weight) of individual indicators has proven to be difficult, controversial, arithmetically unsignificant (many indicators), and not recommended by the experts panel [28].

Any evaluation system is to include specific “reference values” for each particular and integral indicator to judge about the level of farm’ competitiveness. For assessing the specific (indicator and aspect) and the overall levels of competitiveness of governing structures in Bulgarian farming, the following benchmarks, suggested by a panel of leading experts in the area, are applied: High competitiveness level 0.51-1, Good competitiveness level 0.34-0.5, and Low competitiveness level 0-0.32.

3. Results

3.1. Competitiveness levels of governing structures

There is considerable variation in the level of competitiveness of agricultural farms of different legal types (Figure 2). With the highest competitiveness are cooperatives, and corporations and associations. The level of competitiveness of sole traders is good and above the industry average. The lowest is the competitiveness of physical persons, which is at a good level, but below the industry average.

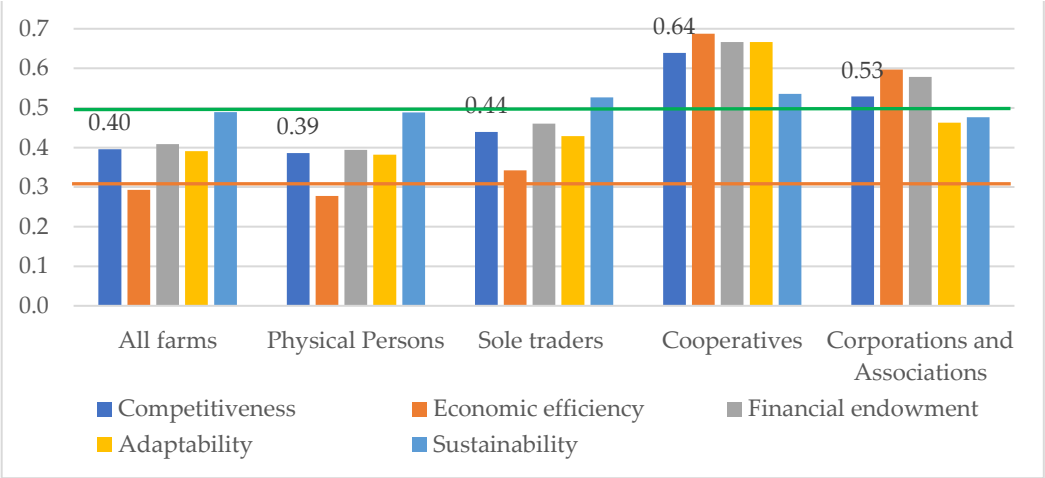


Figure 2. Competitiveness of governing structures in Bulgarian farming in general and for main pillars

All of the surveyed cooperatives, corporations and associations have a good or high level of competitiveness, including every cooperative farm (Figure 3). The share of sole trader with good and high competitiveness is also significant. At the same time, almost 37% of all physical persons have low competitiveness. Moreover, only 48.7% of physical persons have a level of competitiveness above the national average, and almost one in two is with competitiveness below the average for the group of physical persons (Figure 4). Along with this, the share of cooperatives, corporations and associations, and sole traders with competitiveness above the industry average is significant.

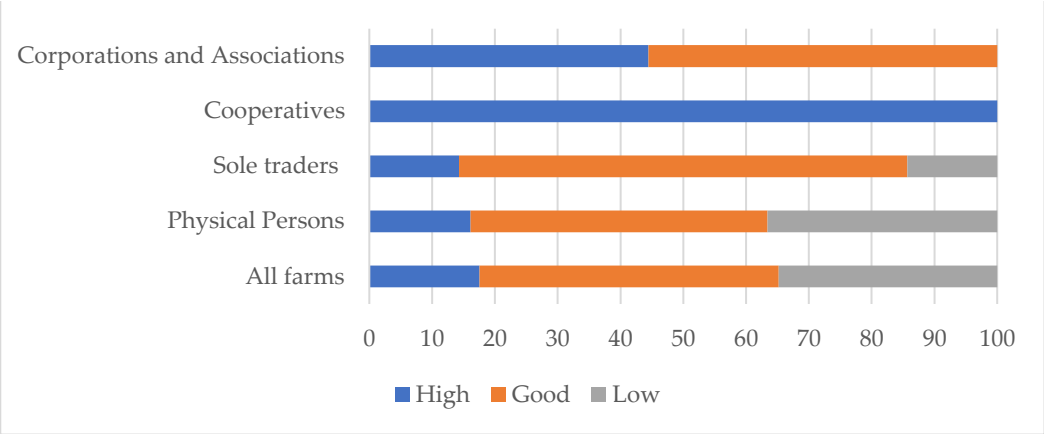


Figure 3. Share of agricultural holdings with different levels of competitiveness in Bulgaria (%)

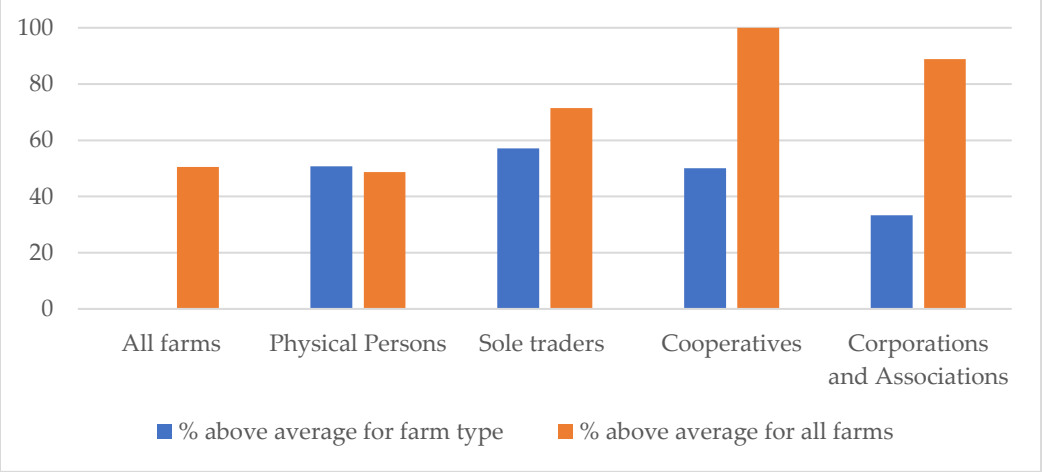
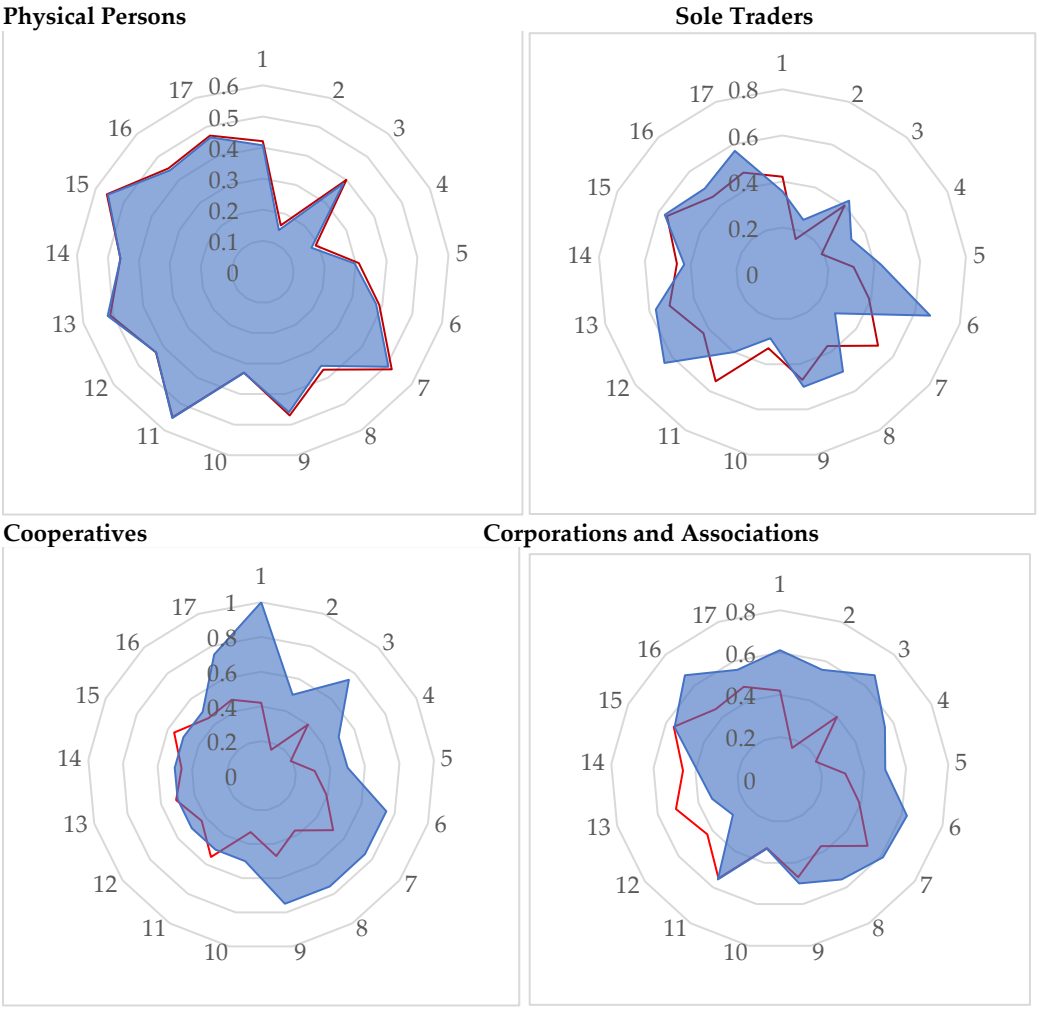


Figure 4. Share of governing structures in Bulgaria farming with a level of competitiveness above the average for all farms and the respective group (%)

Integral levels for each pillar of the farms' competitiveness demonstrate that (relatively) low economic efficiency to the greatest extent contributes to the deterioration of the competitiveness of physical persons and sole traders, the low financial security of physical persons, the low sustainability of cooperatives, and the low adaptability of corporations and associations (Figure 2). At the same time, high economic efficiency conditions the strong competitive positions of cooperatives, corporations and associations, and the high sustainability of sole traders. Cooperative and corporate farms have the highest financial security and potential for adaptation to changes in the market, institutional and natural environment, and cooperatives and sole traders have the highest sustainability. Good sustainability also contributes to the greatest extent to maintaining the competitiveness of physical persons in the country.

Most competitiveness indicators of the farms of physical persons have values lower than the average for the country (Figure 5). Only in terms of inputs supply, these farms have competitive advantages compared to other governing structures.



* 1 – Labor Productivity; 2 -Land Productivity; 3 - Profitability; 4 - Income; 5 - Profitability of own capital; 6 – Liquidity; 7 - Financial autonomy; 8 - Adaptability to the market environment; 9 - Adaptability of the institutional environment; 10 - Adaptability of the natural environment; 11 - Supply of land and natural resources; 12 - Labor supply; 13 – Inputs supply; 14 – Finance supply; 15 – Services supply; 16 – Innovations supply; 17 – Utilization and marketing of produce and services

Figure 5. Competitiveness indicators* of different governing structures in Bulgarian farming (red line – average for agriculture)

The competitiveness of sole traders is supported by (better) good liquidity, profitability, and financial security, adaptability to the market and institutional environment, and advantages in terms of supply of services and innovations, and in the realization of production and services. Moreover, in terms of the supply of workforce and inputs, these holdings are superior to other legal types. The main factors for lowering the

competitiveness of sole traders are relatively low productivity, productivity, financial autonomy, potential for adaptation to the natural environment, and weaker positions in supply of land and natural resources, and finance.

Cooperative farms have comparative competitive advantages over other legal types in terms of levels of productivity, profitability, liquidity, financial autonomy, adaptability to the market, institutional and natural environment, in the supply of labor and finance, and in the realization of production and services. Another significant part of the cooperatives' competitiveness indicators surpasses the average for the country. To the greatest extent, greater problems in supplying the necessary land and natural resources and services contribute to lowering the competitiveness of cooperative farms.

Corporations and associations outperform other legal types with high levels of labor and land productivity, and advantages in terms of supply of land and natural resource, and innovations. In addition, most of the remaining indicators of competitiveness of these farms are above the average for the country. Critical to maintaining the competitiveness of corporative farms are problems in supplying the necessary labor, inputs and finance, as well as average levels of adaptability to changes in the natural environment and efficiency in supplying the necessary services.

3.2. Importance of operational size, product specialisation, and location

There is considerable variation in the competitiveness of farms depending on their product specialization (Figure 6). Deviations from the average for the legal type are largest for physical persons specialized in herbivores (-0.07), sole traders specializing in mixed crop production (-0.16), and corporations and associations specialized in herbivores (-0.15) and bees (+ 0.26). These deviations are towards the average level for the sub-sector for physical persons, and corporations and associations specializing in herbivores. On the other hand, for sole traders specialized in mixed crop production, and for corporations and associations specializing in bees, the deviations are in opposite directions from the average levels for the sub-sector.

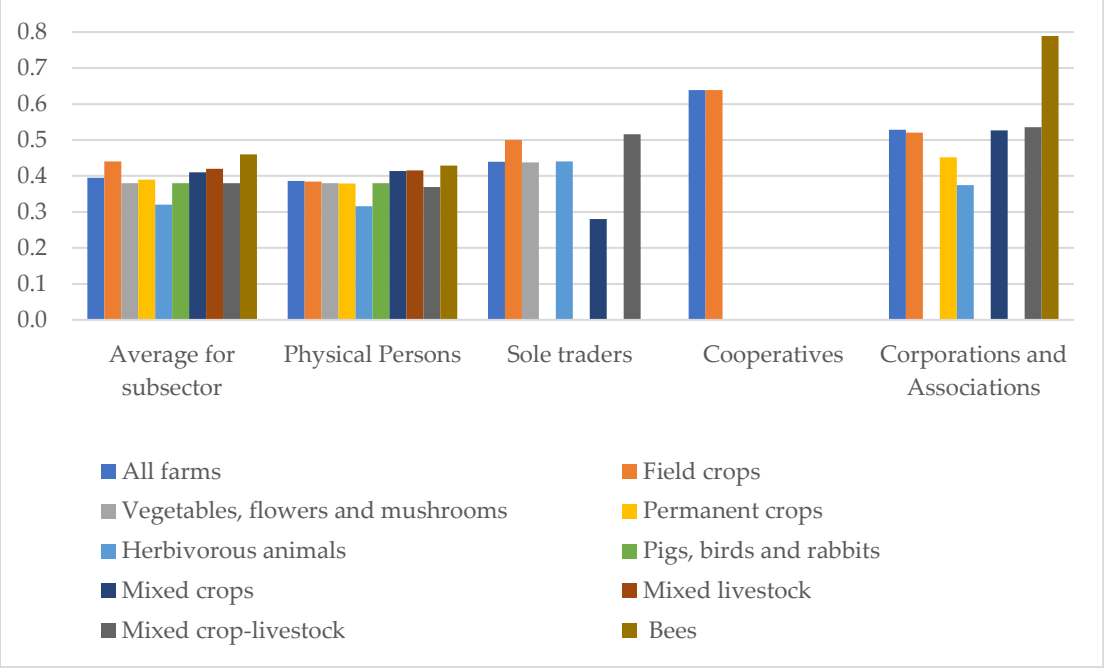


Figure 6. Competitiveness of governing structures of different type and specialization in Bulgarian farming

Farms of physical persons dominate in the major types of production such as vegetables, flowers and mushrooms, herbivores, pigs, poultry and rabbits, mixed crop production and mixed livestock production. In these sub-sectors, the levels of competitiveness of physical persons predetermine the sub-sector level, while at the same time matching or being close to the average for this legal type of holdings.

In the case of farms of physical persons, and corporations and associations, there is a positive correlation between the level of competitiveness and the increase in the size of the activity (Figure 7). All of the surveyed sole traders are in the group of small farms and

have a competitiveness level exceeding the average for this size group and the industry as a whole. The same applies to cooperatives, all of which are in the medium-sized group.

The situation is similar with corporations and associations, which are divided into only two groups - small and medium in size.

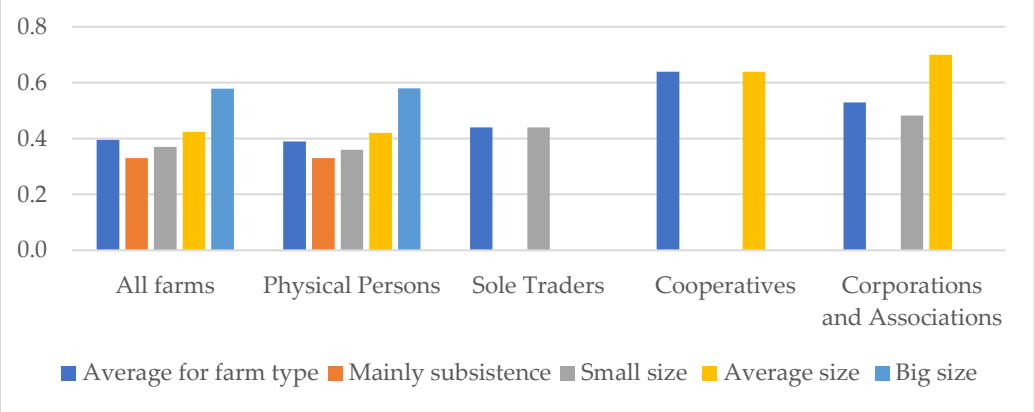


Figure 6. Competitiveness of governing structures of different sizes in Bulgarian farming

All governing structures in Bulgarian farming are market oriented, with exception of portion of physical persons which are mainly for subsistence farming. The competitiveness of market-oriented farms of all types is much higher than the subsistence holdings.

In the plain regions, farms with any legal status have a higher competitiveness than the rest of ecological regions, while preserving the differences reviled for the individual legal types (Figure 7). Only physical persons, and corporations and associations operating in the protected zones and territories have the lowest competitiveness.

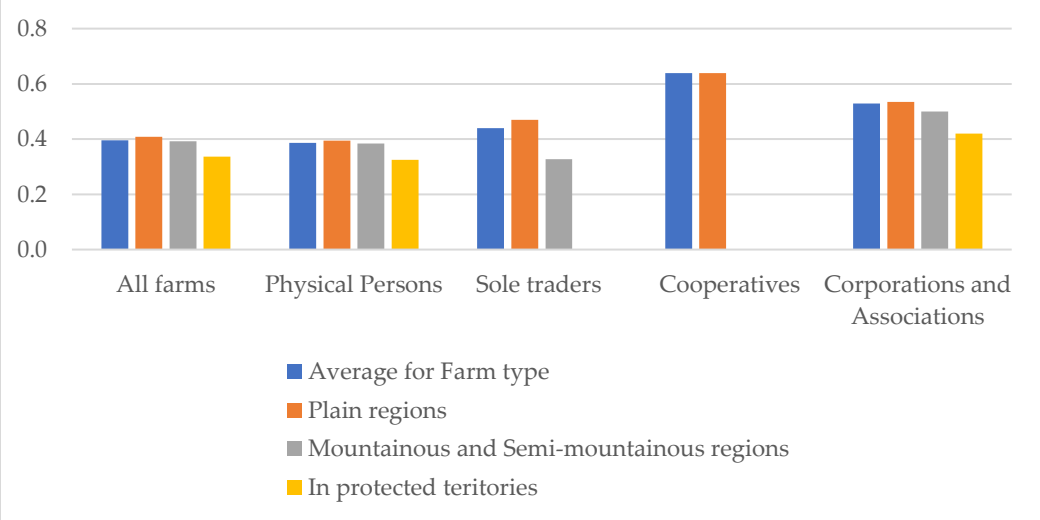


Figure 7. Competitiveness of governing structures in main ecological regions of Bulgarian farming

The detailed analysis of the relationships of the level of competitiveness of governing structures in the different agrarian (administrative and geographical) regions of the country did not establish specifics different from those already established and described.

4. Discussion

This first in-kind holistic assessment of competitiveness of governing structures of Bulgarian farming found out a quite unlike levels in farms of different juridical types. The competitiveness of unregistered individual, family and group holdings (Physical Persons) is the lowest while other type of farms are with much higher competitiveness. This means that historical and current trend of transfer of agrarian resources and activity from the less competitive governing structures of the physical persons to cooperative, corporate and firm management with higher competitive advantages will continue.

Significant share of all physical persons in the country are with low competitive-ness. This means that a good part of the farms of physical persons will cease to exist in the near future, if measures are not taken in a due time to increase competitiveness by improving the management and restructuring of farms, adequate state support, etc. as a result of weak competitive positions, bankruptcies, transformation into companies and partnerships, acquisition by more efficient structures, etc. Two-thirds of corporations and associations also have below-average levels of competitiveness for this group, indicating a need for modernization to "align" with corporate governance and competition standards.

Low economic efficiency to the greatest extent contributes to the deterioration of the competitiveness of physical persons and sole traders, the low financial security of physical persons, the low sustainability of cooperatives, and the low adaptability of corporations and associations. At the same time, high economic efficiency is reason for the strong competitive positions of cooperatives, corporations and associations, and the high sustainability of sole traders.

Cooperative and corporate farms are with the highest financial security and potential for adaptation to changes in the market, institutional and natural environment, and cooperatives and sole traders have the highest sustainability. Good sustainability also contributes to the greatest extent to maintaining the competitiveness of physical persons in the country.

Individual competitiveness indicators vary considerable depending of type of farm governance. For physical persons most of their values are lower than the average for the country. Only in terms of inputs supply, farms of physical persons have competitive advantages compared to other governing structures.

The competitiveness of sole traders is supported by good liquidity, profitability, and financial security, adaptability to the market and institutional environment, and advantages in supply of services and innovations, and in the realization of production and services. Moreover, in terms of the supply of workforce and inputs, these holdings are superior to other legal types. The main factors for lowering the competitiveness of sole traders are relatively low productivity, productivity, financial autonomy, potential for adaptation to the natural environment, and weaker positions in supply of land and natural resources, and finance.

Cooperative farms have comparative competitive advantages over other legal types in terms of productivity, profitability, liquidity, financial autonomy, adaptability to the market, institutional and natural environment, in the supply of labor and finance, and in the realization of production and services. Another significant part of the cooperatives' competitiveness indicators surpasses the average for the country. To the greatest extent, problems in supplying the necessary land and natural resources and services contribute to lowering the competitiveness of cooperative governance of farming.

Corporations and associations outperform other legal types with high levels of labor and land productivity, and advantages in terms of supply of land and natural resource, and innovations. Most competitiveness indicators of these farms are above the average for the country. Critical to maintaining the competitiveness of corporative farms are problems in supplying the necessary labor, inputs and finance, as well as average levels of adaptability to changes in the natural environment and efficiency in supplying the necessary services.

There is considerable variation in the competitiveness of farms depending on their product specialization. Deviations from the average for the legal type are largest for physical persons specialized in herbivores, sole traders specializing in mixed crop production, and corporations and associations specialized in herbivores and bees. These deviations are towards the sub-sector's average for physical persons, and corporations and associations specializing in herbivores which shows that the product specialization of this group of farms is a more important factor for their competitive-ness than the legal status.

For sole traders specialized in mixed crop production and for corporations and associations specializing in bees, the deviations are in opposite directions from the sub-sector' average. This shows the additional comparative competitive advantages of corporations and associations and comparative competitive disadvantages of sole traders in certain sub-sectors of agriculture – beekeeping and mixed crop production, respectively.

Farms of physical persons dominate in major productions (vegetables, flowers and mushrooms, herbivores, pigs, poultry and rabbits, mixed crop production and mixed livestock production) and predetermine the sub-sector's competitiveness level which is close to the average for this type of holdings. This means that there is an "optimal" (competitive) specialization for the physical persons and there is practically no com-petition with other legal types in these subsectors.

Therefore, it is to be expected that the restructuring of holdings of different legal types will continue, through the concentration of resources in the most efficient groups, diversification and/or change of specialization, transformation of the legal type of the farms, etc.

There is a positive correlation between the level of competitiveness and the size of activity for physical persons, and corporations and associations. All sole traders are in the group of small farms having competitiveness exceeding the average for this group and the sector. The same applies to cooperatives, all of which are in the medium-sized group. Thus, an optimal size has been reached for realizing the maximum competitive positions of sole traders and cooperatives.

Corporations and associations are only in the small and medium in size groups. This means that competitive advantages of corporations and associations are fully realized in small and/or medium sizes depending on production (specialization, etc.), management (need to coalition of resources, etc.), or other reasons.

All governing structures in Bulgarian farming are market oriented, with exception of portion of physical persons which are mainly for subsistence farming. The competitiveness of market-oriented farms of all types is much higher than the subsistence holdings. Therefore, their future "efficiency" and sustainability would depend on other factors such as lack of income alternatives due to age of farmers, lack of skills, and remoteness of region, or as source to supplement household income, preference for independent operations or as a free time occupation, desire to preserve farm for next generation, etc.

All governing structures of farming have a higher competitiveness in the plain regions compared to other ecological regions of the country, while preserving the differences related to the legal status. Physical persons, and corporations and associations operating in the protected zones and territories are with lowest competitiveness. This shows that the specific ecological location is an additional critical factor that benefits or impairs the competitiveness of Bulgarian farms. At the same time, there are no differences in competitiveness of governing structures related to the administrative and geographical region they are located. The later demonstrates that legal, size, product and ecological characteristics of farms is more important for the competitiveness then the agrarian region they are operating.

Conclusions

This study has demonstrated the needs and proved the possibilities for (more) adequate assessment of the competitiveness of diverse governance structures in farming taking into account farm's economic, financial and governance potential. It also reviled the "complicated" relations between farm's competitiveness, efficiency and sustainability, the last being critical pillars of governance structures competitiveness. In that way, it can be explained why some type of farms maintain satisfactory production and financial efficiency indicators but are quite successful for competing in certain markets of resources and/or agrarian products.

The multi-criteria assessment of the competitiveness of farming structures in Bulgaria found that it is at a good level, but there is significant differentiation in the level of competitiveness of holdings with different juridical types. Furthermore, the study has found out that besides the juridical type, other dimensions of governance structures like economic size, market orientation, product specialization, ecological location, are critical (and sometimes more important) for determining their absolute and comparative competitiveness. This study proved results of previous assessments on competitiveness of efficiency of governing structures in Bulgarian farming based on pure qualitative (Discrete structural) analysis [27, 31].

The low adaptive potential and economic efficiency to the greatest extent contribute to lowering the competitiveness of Bulgarian agricultural producers. Especially critical for maintaining the competitive positions of farms are the low productivity, income, financial security and adaptability to changes in the natural environment, in which directions the public support of farms and their management strategies should be directed. A large share of farms of different types has a low level of competitiveness, and if measures are not taken in a due time to increase competitiveness by improving the management, restructuring of farms, adequate state support, etc., a large part of Bulgarian farms will cease to exist in the near future.

Nevertheless, transformation of farming governance to more competitive structures often take (a long) time because of the high transaction costs associated with initiation, transfer, development and maintenance of different governing forms in the specific market, institutional and natural environment. What is more, in addition to market competition, there are other mechanisms for governing farming activities ("visible hand of manager", "collective decision making", public intervention, etc.), and diverse contractual, informal etc. modes for governing horizontal and vertical integration of activity of agrarian and related agents. All these governing structures, be-yond the legal form and boundaries of the farm, have to be identified, studied, and their factors, importance and complementarities assessed. In that way the competitiveness of diverse governance structures in agriculture can be properly understood, evaluated, and factors and prospects of development correctly identidied.

The suggested and successfully tested framework for assessing the competitive-ness of farms should be further improved and applied more widely and periodically in the country and internationally. The precision and representativeness of the information used should also be

improved by increasing the number of surveyed farms and their important characteristics (e.g. farmers age, gender, education level, agrarian experience, etc.). The later requires close cooperation with producer organizations, national agricultural advisory service, and other interested parties as well as extending and improving the system for collecting agro-statistical information in the country and the EU.

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