

Review Article

Competitiveness of Farming Enterprises in Bulgaria

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Received: May 20, 2017; Accepted: August 08, 2017;

Published: August 15, 2017

Abstract

This paper suggests a holistic framework for assessing competitiveness of farming enterprises, and analyses competitiveness of different type of Bulgarian farming enterprises during European Union Common Agricultural Policy implementation. First, it presents a new approach for assessing farm competitiveness defining farm competitiveness and its three criteria (efficiency, adaptability and sustainability), and identifying indicators for assessing the individual aspects and the overall competitiveness of farms. Next, it analyzes evolution of farming organizations during post-communist transition and EU integration in Bulgaria, and assesses levels and factors of farms competitiveness in the conditions of CAP implementation. Third, it assesses the impact of EU CAP implementation of farming enterprises in the country.

Keywords: Efficiency; Adaptability; Sustainability; Competitiveness; Farming enterprise; EU integration; Impacts of EU CAP; Bulgaria

Introduction

The issue of competitiveness of farming enterprises is among the most topical in academic, business and political respect. There have been numerous studies on competitiveness of different type and kind of farms in developed, transitional and developing countries [1-7]. Nevertheless, up to date, there is no widely accepted and comprehensive framework for assessing farm competitiveness in different market, economic, institutional and natural environment.

Usually farm competitiveness is not well defined and it is studied through traditional indicators of technical efficiency, productivity, profitability etc. At the same time, important aspects of farm competitiveness such as the governance efficiency, the potential and incentives for adaptation, and the sustainability are commonly ignored in the analyses. Furthermore, with very few exceptions [8,9] there are no comprehensive studies on farm competitiveness in Bulgaria during European Union (EU) integration and Common Agricultural Policy (CAP) implementation.

This article suggests a holistic framework for assessing competitiveness of farming enterprises, and analyses competitiveness of different type of Bulgarian farming enterprises during EU CAP implementation. First, it presents a new approach for assessing competitiveness of farming enterprises, defining farm competitiveness and its three criteria (efficiency, adaptability and sustainability), and identifying indicators for assessing the individual aspects and the overall competitiveness of farming enterprises. Next, it analyzes evolution of farming organizations during post communist transition and EU integration in Bulgaria, and assesses levels and factors of competitiveness of different type of farms in the conditions of CAP implementation. Third, it assesses the impact of EU CAP implementation of farming enterprises in the country.

Framework for Assessing Farm Competitiveness

Definition of farm competitiveness

Farm competitiveness characterizes the ability (internal potential,

incentives) of a farm to compete on (a) market successfully [8]. It is a feature only of the “market farms” whatever their specific type is – semi-subsistence (semi-market) holdings, family farms, cooperatives, business enterprises etc. If a farm is non-market (e.g. subsistence holding, member oriented cooperative), or it is quasi or entirely integrated in a larger venture (e.g. processing enterprise, food chain, restaurant, eco-tourism etc.) it has no such attribute.

A good competitiveness means that a farm can produce and sell out its products and services effectively. The later could be a result of the competitive prices, variety, quality, time of delivery, location or other specificity (such as newest, uniqueness, organic character, origin etc.) of farm and/or its products. Contrary, the insufficient competitiveness indicates that a farm is experiencing serious problems in producing and marketing its output effectively (or at all) because of the high production and/or transaction costs. The farm competitiveness usually refers to farm’s ability to compete on a certain market(s) – retail, wholesale, local, regional, international, niche, for commodities for direct consumption or processing, mass or specific products, services, etc.

In some cases, a segment of farm’s activity could be competitive while other(s) not. For instance, in many mix Bulgarian farms the crop production is usually highly competitive while livestock operations are not. Besides, there are various reasons for keeping “profitable” and “unprofitable” activities within a farm – e.g. preferences, internal use of “free” resources, technological and transaction costs economies of scale and scope, interdependency of assets or activities, risk management etc [10,11]. Therefore, farm efficiency and competitiveness characterize the overall rather than the partial performance of a farm.

The level of competitiveness of a particular farm depends on two groups of factors:

- internal factors - managerial capital, owned resources, potential for innovation and adaptation, productivity, relative power, location, relation specific capital, reputation etc. and

- external factors - evolution and maturity of agrarian markets, number and power of competitors, development of downstream and upstream industries, level of public support to agriculture, institutional restrictions, border control measures, liberalization of local markets and international trade etc.

The specific level of competitiveness of a particular farms, or farms in individual sub-sectors, regions and countries depends on internal and outside factors. However, the farm competitiveness is always a characteristic of the farm and expresses its internal potential (ability) to compete successfully in the specific economic, institutional etc. environment.

Farm competitiveness is usually assessed in a relative term (comparing to other similar farms) or absolute term (comparing to other competitors on a market). A particular farm could have a higher, average or lower performance than the other similar farms, and be competitive or uncompetitive on a particular market. Namely, because of the insufficient competitiveness of most (or some of) domestic farms some countries apply a public protection mode – subsidies, state purchase, price guarantee schemes, border restrictions etc.

Criteria for competitiveness of farming enterprises

A farm will be competitive if it is efficient, and adaptive, and sustainable [8]. Thus, there are three criteria for assessing the competitiveness of a farming enterprise.

First, farm efficiency – that is the potential of a farm to organize effectively the production and transaction activity (of farmer, coalition of members), and minimize the overall production and transaction costs.

Broadly applied traditional approach cannot assess adequately the efficiency of farms since it restricts analysis to the technical efficiency (productivity) and/or financial efficiency (profitability). At the same time, significant transaction costs associated with the farming organization and farms potential to economize on governance costs are completely ignored.

Farm is not only a production but a governance structure as well [12]. Besides production costs farming activity is usually associated with significant transaction costs. For instance, there are costs for studying and complying with various institutional requirements (laws, standards, informal norms); for finding best prices and partners; for identification and protection of diverse property rights; for negotiating conditions of exchange; for contract writing and registration; for setting up and maintaining of a coalition; for enforcing negotiated terms through monitoring, controlling, measuring and safeguarding; for directing and monitoring hired labor; for collective decision making and controlling members of the coalition; for disputing, including through a third party (court system, arbitration or another way); for adjusting or termination along with the evolving conditions of exchange etc.

In addition, the choice of type of farming organization is often determined by the personal characteristics of individual agents – preferences, ideology, knowledge, capability, training, managerial experience, risk-aversion, reputation, trust, power etc. For instance, if farmer is a good manager he will be able to design and control a

bigger organization managing effectively more internal (labor) and outside (market and contract) transactions. A risk-taking farmer will prefer more risky but productive forms - e.g. bank credit for a new profitable venture). When counterparts are family members or close friends there is no need for complex organization since relations are easily “governed” by the good will and mutual interests of parties. Furthermore, benefits for farmers could range from monetary or non-monetary income; profit; indirect revenue; pleasure of self-employment or family enterprise; enjoyment in agricultural activities; desire for involvement in environment, biodiversity, or cultural heritage preservation; increased leisure and free time; to other non-economic benefits.

Therefore, the overall production and transaction costs and benefits of a farm are to be taken into account in the assessments of farm efficiency. Different types of farms (subsistent, semi-market, part-time, family, group, cooperative, firm, corporative etc.) have unlike missions, goals, costs and benefits for owners, modes of enhancement of efficiency etc [11]. Therefore, they apply quite different strategies for development – e.g. preservation or expansion of a family farm, income support, group farming, servicing members, innovation, commercialization, market domination, specialization, diversification, cooperation with competitors, environmental conservation, integration into processing and food chain, direct (on farm) marketing, international trade etc.

Consequently, diverse farms would have quite different ways for expression of their proper efficiency. Thus, it is to be expected a significant variation in the rate of profitability on investments in an agro-firm (a profit-making organization) from the “pay-back” of expenditures or resources in a family farm (a major or supplementary income generation form), in a cooperative (a member oriented organization), in a public farm (a non-for profit organization) or in a semi-market farm (giving opportunity for productive use of otherwise “non-tradable” resources such as family labor, land etc.).

Furthermore, there are many highly effective (non-market, cooperative etc.) farms which are not competitive since they do not compete on market at all. In order to be competitive a farm must be effective and be able to govern effectively its marketing transactions. Therefore, the system of assessment of farm competitiveness is to take into account the farm’s specific and market efficiency.

Second, farm adaptability – that is farm’s potential (ability, incentives) to adapt to constantly changing market, economic, institutional, and natural environment.

A market farm could be very effective (in optimization of current production and transaction costs) but unless it poses a good adaptation potential it will not be competitive. A market farm must have not only high historical or current efficiency but a long-term ability to perform effectively. The later implies existence of a good potential for farm adaptation to: liberalization of markets, globalization and augmentation of competition; dynamics of demand and prices of farm products; evolution of supply and prices of agrarian inputs, labor, services, finance etc.; progression of public support to farms; development of market and institutional norms, standards and regulations; changes in natural environment (e.g. global warming, extreme weather, water shortages etc.).

Table 1: Indicators for assessing farm competitiveness.

Criteria	Indicators
Farm efficiency	Level of labor productivity Level of land and livestock productivity Level of profitability of farm Level of profitability of own capital Level of liquidity Level of financial autonomy Level of governance efficiency
Farm adaptability	Level of adaptability to market environment Level of adaptability to institutional environment Level of adaptability to natural environment
Farm sustainability	Level of sustainability

For instance, in Bulgaria there are many highly productive (small scale, livestock etc.) farms which are not able adapt (lack of managerial ability and/or needed resources) to increasing competitive pressure, and new EU quality, safety, environmental preservation, animal welfare etc. standards, and/or challenges associated with the global climate change [13].

There are also marketing farms which have no incentives to adapt to new environment. For instance, if a farm/firm is in the end of its life cycle (an old age farmer with no successors) it does not have stimulus for a long-term investment for enhancement of adaptability and competitiveness. Similarly, despite the huge public support for restructuring of so called “semi-market farms” in Bulgaria, the progress in implementation of this measure has been very slow and far behind the targets) because of the lack of interests in beneficiaries.

The farm adaptation is achieved through progressive improvement of the factors of production (resources, technologies, varieties of plants and livestock), production structure and/or organization of the farm (labor organization, internal management structure, management of contractual relations, modernization of organizational form etc.). Thus the system of assessment of farm competitiveness is to take into account the farms potential for adaptation to specific market, institutional and natural environment.

Third, farm sustainability – that is farm’s ability to maintain (continue) over time [10].

A farm could be efficient and adaptive but unsustainable in a medium or long-term. Therefore, such farm is not going to be competitive. For instance, around the world there are many part-time farms which “sustain” during the economic crisis (high unemployment, low income) and “suddenly” disappear once the economic situation improves. Likewise, in western countries there are many unsustainable family farms which managers are in retirement

age but there is no successor willing to undertake the enterprise.

Similarly, in Bulgaria there are a great number of otherwise efficient but highly unsustainable in a short to medium-term farms [14]. Most of these farms are individual or family holding operated by old managers, or they are located in mountainous regions and specialized in tobacco production (declining markets, limited alternative employment opportunities), or they are old style production cooperatives (crisis in management, reduction in membership).

Furthermore, a market farm could be inefficient and inadaptible but highly “sustainable” – e.g. during transition there were many such farming organizations in Bulgaria (various public farms and firms in the process of privatization, reorganization or liquidation). Thus the system of assessment of farm competitiveness is to take into account the farms sustainability in shorter and medium terms along with its efficiency and adaptability.

Assessment of farm competitiveness

The evaluation of the overall competitiveness of an individual farm, or farms of different types, specialization or regions, requires a complex qualitative analysis. This assessment is to determine the factors and levels of farm efficiency, adaptability and sustainability in the specific market, economic, institutional and natural environment.

Furthermore, for each criteria one or more indicators is to be selected giving idea about (measuring) the level of farm efficiency, adaptability and sustainability.

There are a great variety of indicators for evaluating farm’s technical and financial efficiency suggested in textbooks (manuals) and/or practically used by various types of farms in diverse sub-sectors of agriculture and different countries. For assessing farm competitiveness, there is to be selected few (key) indicators which best characterize the technical and financial efficiency of the specific type of farm in the conditions of a particular sub-sector, region and country. For instance, for the conditions of Bulgarian market farms the quantitative indicators for the levels of labor productivity, land and livestock productivity, profitability of farm, profitability of own capital, liquidity, and financial autonomy, are the most appropriate for evaluation of farm’s technical and financial efficiency [9] (Table 1).

For assessing farm’s governance efficiency a qualitative analysis is needed embracing farm’s goals, ownership structure, personal characteristics of the farmer and labor, critical dimensions of different farm transactions, level of internal and outside transaction

Table 2: Identification of type of farm’s problems in supply of factors of production and marketing of output.

Serious problems in:	Character of management problems				
	None	Insignificant	Normal	Big	Unsolvable
Effective supply of needed land and natural resources		⊖			
Effective supply of needed labor	⊖				
Effective supply of needed material and biological inputs		⊖			
Effective supply of needed innovation and know-how	=		⊖		
Effective supply of needed services			⊖		
Effective supply of needed funding					
Effective utilization and marketing of produces and services					

Table 3: Scale for conversion of levels of management problems in levels of sustainability.

Seriousness of problems	Level of sustainability
None	Very high
Insignificant	High
Normal	Good
Big	Low
Unsolvable	Unsustainable

costs, available governance alternatives; competition, cooperation, integration and/or complementarily with other organizations etc.

Furthermore, according to the farmer’s personal preferences, and farm’s transacting costs and benefits, it could be found that a particular farm would be highly efficient (or inefficient) with various levels of (combination of the) productivity, profitability, financial security, and financial dependency. For instance, despite the low productivity, profitability and financial independence of many Bulgaria cooperatives, their efficiency for members has been high - non-for profit organization of highly specific for member’s assets and services with minimum production and/or transaction costs [14].

For assessing farm’s adaptability three qualitative indicators could be used – the level of adaptability to market environment, the level of adaptability to institutional environment, and the level of adaptability to natural environment. Moreover, the level of the overall adaptability of the farm will be determined by the indicator with the lowest value. For instance, in spite of the high adaptability to market and natural environment of many Bulgarian farms, their overall adaptability has been low since the level of adaptability to the new institutional requirements and restrictions is low [15].

For assessing farm’s sustainability a qualitative analysis of the farm and its environment is needed. Some of the factors reducing farm sustainability are internal for the farm (e.g. natural “life cycle” of the farm, low efficiency, and insufficient adaptability) while others are external and associated with the evolution of market, economic, institutional and natural environment.

In order to assess the overall sustainability of a farm a quantitative indicator “level of sustainability” could be calculated.

First, the managerial problems associated with the effective supply of needed factors of production and the marketing of output are to be identified, and their severity ranged (Table 2). Persistence of serious unsolvable problems in any of the functional areas of the farm management would indicate a low governance efficiency and sustainability.

The level of the overall sustainability of a farm will coincide with the lowest level of sustainability of supply of any of the factors of production or the marketing of products. For instance, despite the high sustainability of supply of natural, human and material factors of production, the overall level of sustainability of most Bulgarian farms is low because of the low sustainability of the management of finance supply and/or marketing of output [8].

In addition to traditional statistical, farming system, and accountancy data, a new type of micro-economic data for farm’s specific characteristics (Table 3), activity and governance as well

Table 4: Scale for conversion of qualitative indicators for overall efficiency, adaptability and sustainability into universal indicators.

Qualitative value of indicators			Quantitative value
Level of efficiency	Level of adaptability	Level of sustainability	
Very high	Very high	Very high	1
High	High	High	0,75
Good	Good	Good	0,5
Low	Low	Low	0,25
Insufficient	Insufficient	Insufficient	0

as data for farm’s market, institutional and natural environment are needed to access the level of competitiveness through various indicators. These new data are to be collected through interviews with farm managers and/or experts in the area.

The analysis of various aspects of farm competitiveness let not only to determine its level but also to identify the critical factors impeding its improvement, and assist farm management and public policies modernization.

Often, the values of different indicators for individual criteria are with different directions. For instance, the efficiency and sustainability of a farm(s) could be high while adaptability low and vice versa. In order to get idea about the overall competitiveness of a farm and to be able to make comparison of competitiveness of different farms it is necessary to calculate an Index of Farm Competitiveness.

Initially, we have to convert the specific value of indicators for efficiency, adaptability and sustainability into universal unit less values. An exemplary scale for conversion of the qualitative indicators for overall efficiency, adaptability and sustainability into universal (unit less) indicators is presented in (Table 4).

After that, we could calculate an integral Index of Farm Competitiveness (Ic) by multiplying the Index of Farm Efficiency (Ie), Index of farm adaptability (Ia) and Index of Farm Sustainability (Is) using formula: $Ic = Ie \times Ia \times Is$.

The value of IC would vary between 0 and 1, as a farm would be highly competitive when IC is 1, uncompetitive when IC is 0, and with a range of different (low, good etc.) levels of competitiveness when IC is between 0 and 1. The specific ranges and weights of indicators for assessing farm efficiency and integral competitiveness as high, good, low and insufficient is to be determined by experts according to the specific conditions in each country, subsector of agriculture or type of farming organization.

Depending on identified ranges and weights for assessment, a particular farm would have quite unlike level of the overall competitiveness. For instance, if there is no competition with imported products in a local market, a farm with relatively low productivity will be competitive. On the other hand, the same farm would be uncompetitive in an opened and matured market with a strong internal and international competition.

Level of Competitiveness of Bulgarian Farms Evolution, efficiency and sustainability of farms

Post-communist privatization of farmland and other agrarian resources has contributed to a rapid development of private farming

Table 5: Share of different type farms in all holdings, agrarian resources and productions in Bulgaria.

Indicators	Physical persons	Cooperatives	Sole traders	Companies	Associations
Number of holdings with Utilized Agricultural Area (UAA) (%)	99	0.3	0.4	0.2	0.05
Utilized agricultural area (%)	30.3	40.3	11.7	16.1	1.6
Average size (ha)	1.4	592.6	118.8	352.5	126.2
Number of breeders without UAA (%)	96.1	0.2	1.9	1.7	0.1
Workforce (%)	95.5	1.2	0.8	1.4	0.3
Labor input (%)	91.1	4.1	1.4	2.8	0.6
Cereals (%)	26.6	41.8	13	17.3	1.3
Industrial crops (%)	20.5	45.1	14.2	18.6	1.6
Fresh vegetables (%)	86.4	4.4	4.2	4.6	0.4
Orchards and vineyards (%)	52.3	29.5	2.9	10.7	4.6
Cattle (%)	90.2	5.1	1.5	2.5	0.7
Sheep (%)	96	1.4	0.8	1	0.8
Pigs (%)	60.3	1.4	7	30.5	0.8
Poultry (%)	56.5	0.2	13.3	29.3	0.7

Source: Ministry of Agriculture and Food.

in the country. There emerged more than 1.7 million private farms of different type after 1990.

Majority of newly evolved farms are unregistered farms (Physical persons) accounting for 98% of all farming enterprises and Managing 43% of Farmlands [MAF]. They concentrate the main portion of agricultural employment and key productions like livestock, vegetables, fruits, grape etc. Table 5 Unregistered farms are predominately subsistence, semi-market and small-scale commercial holdings. According to the official data the farms smaller than 2 European Size Unit (ESU) comprise the major share of all farms in main agricultural subsectors? What is more, in livestock activities they account for the bulk of the Standard Gross Margin (SGM) in related subsectors.

There has been a constant decrease in the number of unregistered farms as a result of labor exodus (competition with other farms or industries, retirement, emigration), organizational modernization (change in type of enterprises), increasing market competition (massive failures and take-overs), and impossibility to adapt to new institutional requirements (standards) for safety, quality, environmental preservation, animal welfare etc.

More than 3000 new production cooperatives emerged during and after liquidation of ancient "cooperative" structures in 1990s. They have been the biggest farms in terms of land management concentrating a major part of cereals, oil and forage crops, and key services to members and rural population. There have been some adjustments in cooperatives size, memberships, and production structure. A small number of coops have moved toward a "business like" (popularly known as "new generation cooperative") governance applying market orientation, profit-making goals, close and small-membership policy, complex joint-ventures with other organizations etc. That has been a result of overtaking the cooperatives management by younger entrepreneurs, improving the governance, taking advantage from new market opportunities and public support programs, and establishing of some of coops as key regional players.

Besides, some cooperatives have benefited significantly from the available new public support (product or area based subsidies), and the comparative advantages to initiate, coordinate and carry out certain (environmental, rural development etc.) projects requiring large collective actions. Currently Cooperating farming enterprises comprises 0,25% of all farms and manage around 24% of farmlands in the country.

There has been a "boom" in creation of different type agri-firms after 1990 as their number and importance have augmented enormously reaching 2% of all farming enterprises and 42% of managed farmlands. They account for a tiny portion of all farms but concentrate a significant part of UAA, material assets, major productions and significant portion of the SGM of cereals, industrial crops, orchards, poultry and swine.

Business farms are commonly large specialized enterprises. Most of them have been set up as.

Level of competitiveness of commercial farming enterprises

The assessment on the competitiveness of commercial farming enterprises in the country has found out that the majority of surveyed farms are with a good and high competitiveness. Nevertheless, more than a fifth of all farms are with a low level of competitiveness.

Furthermore, different types and kinds of farms are with unequal competitiveness. Diverse agri-firms (Sole traders and Companies) are with good competitive positions and the portion of enterprises with high competitiveness is particularly big. On the other hand, a quarter of cooperatives are with insufficient competitiveness.

Most of the highly competitive farms are specialized in mix livestock and vegetables. For all other groups of specialization, the farms with a good competitiveness comprise the greatest share in respective groups. In mix crop-livestock, mix crops and permanent crops every forth farm is non-competitive.

The analysis of different aspects of the farms competitiveness

Table 6: Share of farms with different level of efficiency in Bulgaria (percent).

Type of farms	Productivity			Profitability			Financial availability			Financial dependency		
	low	good	high	low	good	high	low	good	high	low	average	high
Unregistered	44,83	48,28	6,90	51,72	37,93	10,34	62,07	20,69	17,24	51,72	34,48	13,79
Cooperatives	11,54	84,62	1,92	26,92	73,08	0,00	25,00	75,00	0,00	23,08	53,85	23,08
Firms	11,11	55,56	33,33	33,33	55,56	11,11	33,33	55,56	11,11	22,22	55,56	22,22
Field crops	15,69	74,51	9,80	29,41	64,71	5,88	29,41	60,78	9,80	25,49	54,9	19,61
Mix crop-livestock	38,46	46,15	7,69	46,15	53,85	0,00	46,15	46,15	7,69	46,15	38,46	15,38
Mix crops	33,33	66,67	0,00	50,00	50,00	0,00	41,67	58,33	0,00	33,33	50,00	16,67
Mix livestock	0,00	100,00	0,00	0,00	0,00	100,00	0,00	100,00	0,00	0,00	100,00	0,00
Grazing livestock	100,00	0,00	0,00	100,00	0,00	0,00	100,00	0,00	0,00	100,00	0,00	0,00
Pigs and poultry	100,00	0,00	0,00	100,00	0,00	0,00	100,00	0,00	0,00	100,00	0,00	0,00
Permanent crops	0,00	100,00	0,00	25,00	75,00	0,00	62,50	37,50	0,00	37,5	25,00	37,50
Vegetables	33,33	66,67	0,00	33,33	66,67	0,00	33,33	66,67	0,00	33,33	33,33	33,33
All farms	22,22	70,00	6,67	35,56	60,00	4,44	37,78	55,56	6,67	32,22	47,78	20,00

Source: Interviews with farm managers.

Table 7: Share of farms with different level of adaptability in Bulgaria (percent).

Type of farm	Adaptability to:								
	market			institutions			nature		
	low	good	high	low	good	high	low	good	high
Unregistered	51,72	48,28	0,00	31,03	68,97	0,00	37,93	55,17	6,90
Cooperatives	34,62	65,38	0,00	23,08	71,15	5,77	61,54	36,54	0,00
Firms	0,00	66,67	33,33	22,22	22,22	55,56	22,22	44,44	33,33
Field crops	41,18	54,90	3,92	21,57	64,71	13,73	54,90	41,18	3,92
Crop-livestock	38,46	61,54	0,00	38,46	61,54	0,00	38,46	61,54	0,00
Mix crops	25,00	75,00	0,00	16,67	83,33	0,00	58,33	25,00	16,67
Mix livestock	0,00	100,00	0,00	0,00	100,00	0,00	0,00	100,00	0,00
Grazing livestock	100,00	0,00	0,00	0,00	100,00	0,00	0,00	100,00	0,00
Pigs and poultry	100,00	0,00	0,00	0,00	100,00	0,00	0,00	100,00	0,00
Permanent crops	25,00	75,00	0,00	37,50	62,50	0,00	50,00	37,50	0,00
Vegetables	0,00	66,67	33,33	33,33	33,33	33,33	0,00	66,67	33,33
All farms	36,67	60,00	3,33	25,56	65,56	8,89	50,00	43,33	5,56

Source: Interviews with farm managers.

shows that the farms' low productivity, profitability and funding availability, and insufficient adaptability to market, institutional and natural environment, and serious problems in financial and innovation supply and in marketing of products and services, all contribute to the greatest extent to decreasing the overall level of farms competitiveness.

The analysis of the level of efficiency of diverse type of farms shows that majority of farms have a good productivity, profitability, financial availability and financial independence (Table 6).

However, according to the managers of a considerable number of unregistered holdings, and grazing livestock, pigs and poultry, and mix crop-livestock farms the productivity of their farms is low.

Furthermore, profitability of 36% of all farms is evaluated as low, and more than a half of unregistered farms, and a considerable fraction of mix crop-livestock, mix crops, grazing livestock, and pigs

and poultry farms are in this group.

A significant portion of farm managers declare that availability of finance is insufficient, and unregistered holdings, farms specialized in mix crop-livestock, mix crops, grazing livestock, pigs and poultry, and permanent crops, suffer the most from the lack of funding. Only a fifth of survey farms are heavily dependent from outside funding (credit, state support etc.) as share of highly dependent farms specialized in permanent crops and vegetables is the greatest.

The analysis of the level of adaptability of surveyed farms has found out that more than a quarter of them are with a low potential for adaptation to new state and EU quality, safety, environmental etc. standards, almost 37% are less adaptable to market demand, prices and competition, and every other one is inadaptable to evolving natural environment (warning, extreme weather, droughts, floods, etc.) (Table 7).

Table 8: Share of farms with different level of problems of farm sustainability in Bulgaria (percent).

Type of problems	All farms	Unregistered	Cooperatives	Firms	Field crops	Crop-livestock	Mix crops	Mix livestock	Grazing livestock	Pigs & poultry	Permanent crops	Vegetables
<i>Effective supply of needed land and natural resources</i>												
Insignificant	23,33	37,93	17,31	11,11	23,53	15,38	25,00	0,00	0,00	100,00	25,00	33,33
Normal	61,11	44,83	67,31	77,78	62,75	69,23	66,67	100,00	100,00	0,00	37,50	33,33
Significant	14,44	17,24	13,46	11,11	13,73	15,38	8,33	0,00	0,00	0,00	25,00	33,33
<i>Effective supply of needed labor</i>												
Insignificant	34,44	51,72	26,92	22,22	33,33	30,77	33,33	0,00	0,00	100,00	50,00	33,33
Normal	51,11	31,03	61,54	55,56	50,98	53,85	58,33	100,00	0,00	0,00	50,00	33,33
Significant	14,44	17,24	11,54	22,22	15,69	15,38	8,33	0,00	100,00	0,00	0,00	33,33
<i>Effective supply of needed inputs</i>												
Insignificant	32,22	48,28	25,00	22,22	29,41	46,15	41,67	0,00	100,00	100,00	12,50	0,00
Normal	56,67	31,03	69,23	66,67	66,67	30,77	50,00	100,00	0,00	0,00	62,50	33,33
Significant	11,11	20,69	5,77	11,11	3,92	23,08	8,33	0,00	0,00	0,00	25,00	66,67
<i>Effective supply of needed finance</i>												
Insignificant	30,00	55,17	13,46	44,44	31,37	38,46	25,00	0,00	0,00	100,00	0,00	66,67
Normal	54,44	20,69	73,08	55,56	56,86	30,77	66,67	100,00	0,00	0,00	75,00	33,33
Significant	14,44	24,14	11,54	0,00	9,80	30,77	8,33	0,00	100,00	0,00	25,00	0,00
<i>Effective supply of needed services</i>												
Insignificant	48,89	51,72	44,23	66,67	49,02	46,15	66,67	0,00	0,00	100,00	37,50	33,33
Normal	41,11	27,59	51,92	22,22	43,14	30,77	25,00	100,00	100,00	0,00	62,50	33,33
Significant	10,00	20,69	3,85	11,11	7,84	23,08	8,33	0,00	0,00	0,00	0,00	33,33
<i>Effective supply of needed innovation and know-how</i>												
Insignificant	42,22	62,07	30,77	44,44	43,14	23,08	41,67	0,00	100,00	100,00	50,00	66,67
Normal	36,67	20,69	44,23	44,44	37,25	46,15	41,67	100,00	0,00	0,00	25,00	0,00
Significant	20,00	17,24	23,08	11,11	19,61	30,77	16,67	0,00	0,00	0,00	12,50	33,33
<i>Effective marketing of products and services</i>												
Insignificant	17,78	34,48	5,77	33,33	17,65	15,38	16,67	0,00	100,00	100,00	0,00	33,33
Normal	50,00	37,93	59,62	33,33	56,86	46,15	50,00	100,00	0,00	0,00	12,50	66,67
Significant	30,00	27,59	30,77	33,33	23,53	38,46	33,33	0,00	0,00	0,00	75,00	0,00

Source: Interviews with farm managers.

As far as farm medium-term sustainability is concerned, it is evaluated by 29% of the farms managers as low. The share of unregistered holdings, grazing livestock, and pigs and poultry farms with a small sustainability is the biggest.

On the other hand, less than 7% of all farms “forecast” a high mid-term sustainability. A particular type of firms – the companies, is the only exception among surveyed farms, and two-third of these enterprises envisages being highly sustainable in years to come.

Detailed analysis of the diverse factors diminishing farms long-term efficiency and sustainability indicates that the significant problems in the effective marketing of products and services, and in the effective supply of needed innovation and know-how, are the most important for the good part of surveyed farms (Table 8). Apparently, the later farms have no (internal) adaptation potential to overcome these type of problems and will be unsustainable (inefficient) in a longer run.

The serious (unsolvable) problems associated with the marketing

are critical for a considerable section of agri-firms, and farms specialized in mix crop-livestock, and permanent crops. The severe problems in the effective supply of needed innovation and know-how are most important for the sustainability of cooperatives, mix crop-livestock, and vegetable farms. Furthermore, great difficulties in ineffective supply of needed land and natural resources face a quarter of farms specialized in vegetables and permanent crops. Harsh problems in effective supply of needed labor are critical only for grazing livestock holdings.

Big difficulties in effective supply of needed inputs experience a good fraction of unregistered holdings, and farms specialized in vegetables, permanent crops, and mix crop-livestock production. Significant problems in effective supply of needed finance are reported by a main part of unregistered holdings, and farms specialized in grazing livestock, mix crop-livestock, and permanent crops. Finally, substantial difficulties in effective supply of needed services are common for a big section of unregistered holdings, and farms specialized in permanent crops and mix crop-livestock operations.

Competitiveness of different type of farming enterprises

The majority of surveyed unregistered holdings are with a good level of competitiveness, and around 24% of them are highly competitive. At the same time, more than a fifth of all unregistered farms are not competitive.

Unregistered holdings with a different specialization are with unequal competitiveness. Most highly competitive farms are in vegetables, field crops, and mix livestock productions. On the other hand, a half of the holdings in permanent crops, a third of all farms in mix crops, and 29% of mix crop-livestock operators are with a low level of competitiveness.

The analysis of different components of the competitiveness of unregistered holdings indicates that the low productivity, profitability, and funding availability, along with the insufficient adaptability to changing market, institutional and nature environment, and the severe problems associated with marketing of products, are mostly responsible for diminishing the competitiveness of these farms.

On the other hand, the higher efficiency in supply of factors of production and the lower dependency from outside funding, enhance the overall competitiveness of unregistered farms.

A half of surveyed cooperatives are with a good level of competitiveness, and a quarter of them are highly competitive. At the same time, one out of four cooperatives is not competitive.

The cooperatives with a diverse specialization are with different level of competitiveness. Most of the highly competitive cooperatives are in permanent crops and mix crops. At the same time, a significant number of cooperatives in field crops and mix crops are with a low level of competitiveness.

The analysis of different elements of the competitiveness of cooperatives shows that the low productivity, profitability, financial availability and independency, together with the insufficient adaptability to market, institutional and nature environment, and the difficulties associated with finance, land and innovation supply and marketing mainly affect the reduction of competitiveness of cooperatives.

All surveyed agri-firms are with a good or a high competitiveness. What is more, a significant number of these farms (44%) are highly competitive.

Nevertheless, while three-quarter of the firms in field crops are with high level of competitiveness, all firms in mix crops and permanent crops are with a good competitiveness, and vegetables producers are equally divided in good and high competitive groups.

The analysis of individual factors the competitiveness of agri-firms exposed that the low productivity, profitability, funding availability and independency, and the serious problems in labor and land supply and marketing, greatly contribute to decreasing firms competitiveness. On the other hand, the high adaptability of firms to evolving market and institutional environment, and their considerable efficiency in finance, innovation and service supply raise the overall competitiveness of these farming enterprises.

Impact of EU CAP of farming enterprises

The greatest share of surveyed farms indicates an increased level

of a part of the main indicators in the present time comparing to the levels in the period before EU CAP implementation. For instance, higher or considerable higher is the level of the total income, costs, investments, profit, labor productivity, efficiency of the production and management in the majority of surveyed farms. Also the biggest portion of holdings has an improved access to public support, and augmented amount of subsidies for production, income and investment support. At the same time, the share of farms with lower total indebtedness comparing to the pre-accession period is 38%, while with a higher one below 18%.

According to the more than a half of farms they have an improved qualification and information, agro-techniques and crop rotation, and livestock conditions, as well as increased product and food safety, and innovation activity comparing to the period before CAP implementation. All that is a direct or indirect result of the favorable impact on different CAP mechanisms on the key aspects of the activities of majority of surveyed farms.

However, a good fraction of farms report lack of change in share of sold output, market access, diversification of products and services, deepening of specialization, and in environmental preservation. Also a big part of farms have no changes in their dependency from suppliers and buyers, increased integration with suppliers and buyers, and improved involvement in professional organizations and access to the agricultural advisory system.

Furthermore, a big portion of holdings do not report changes in the profitability, land and livestock productivity, overall indebtedness and financial independency, efficiency of production, management and contractual relations, competitiveness, economic and social sustainability, agro-techniques and crop rotation, livestock conditions, product and food safety, introduction of innovation, qualification and information. Besides, more than a third of farms have no improvement in the relations with state organizations and in the access to public support in comparison to the pre-accession period.

Therefore, implementation of diverse instruments of CAP does not lead to a progressive change in the main indicators of a good part of farms. The later is either due to the lack of positive effect from CAP on a portion of holdings (for example, lack of effective public support) or due to neutralized effect of CAP on other negative factors which could have deteriorated even further the state of farms (in conditions of lack of counterbalancing the existing negative trends CAP instruments).

For a considerable share of farms the current level of the main indicators is lower or significantly lowers comparing to the level before CAP introduction. For instance, 27% of surveyed holdings indicate deteriorated financial independence, more than 24% are with diminished profit, almost 17% are with reduced net income and competitiveness, around 16% are with inferior economic sustainability, almost 15% are with lower profitability, and 14% are with deteriorated social sustainability. Similarly, nearly 19% of farms are with worsened relations with the state organizations, above 13% of them have decreased efficiency of contractual relations, every tenth is with inferior livestock conditions, almost 9% of holdings are with decreased access to public support, and more than 8% are with reduced membership in professional organizations.

All these show that CAP implementation is associated with deterioration of main indicators of a considerable portion of farms. This is either because of the negative effects of CAP on a party of farms, or due to the lack of effective mechanisms for assisting the farms adaptation and for compensating the influence of other negative factors (e.g. competition with heavily subsidized imported products at the national and international markets, high interest rates of bank credits, big market price fluctuations etc.).

It illustrates the extent and the directions in which the main farms indicators have been changed during the period of CAP implementation in the country. Implementation of diverse CAP mechanisms is associated with significant progressive changes in some of the aspects of activity of a relatively big share of farms. For other aspects of farms activity the CAP implementation does not lead to sensible effective change in the majority of holdings. What is more, in certain directions the effect of CAP is negative for a good portion of farms.

All these necessitate improvement of the CAP implementation through perfection of management public programs, change in design and/or beneficiaries of some CAP instruments, or require rethinking and reforming individual mechanisms or the policy as a whole.

According to the managers the CAP implementation affects quite unlikely the competitiveness of different type of farms. As a result of improved market and institutional environment and public support, and increased investment and efficiency of farms, the competitiveness of two-third of surveyed farms increases, including for each fifth one is a significant scale.

During the period of CAP implementation the competitiveness increases of all type of firms, holding specialized in mix livestock and vegetables, and farms located in plan regions and in protected zones and territories. The majority of cooperatives, farms with big sizes, mix crops, and in non-mountainous areas with natural handicaps also records a growth in competitiveness.

Nevertheless, CAP implementation the country is not associated with a change in the competitiveness of farms specialized in grazing livestock, main part of small holdings, and farms in plan-mountainous regions and in mountainous areas with natural handicaps, and a good portion of Physical Persons, cooperatives, farms in field crops, pigs, poultry and rabbits, mix crops, middle and large size holdings. Moreover, the current level of the competitiveness of 30% of middle sized farms, more than 27% of holdings specialized in pigs, poultry and rabbits, a quarter of farms in the mountainous areas with natural handicaps, more than 23% of cooperatives, above 14% of farms in plan-mountainous regions, more than 13% of Physical Persons, every tenth of smallholdings, and more than 8% of mix crop farms, is lower or significantly lower comparing to the period before CAP introduction.

Therefore, CAP implementation does not contribute to improvement of competitiveness of a great portion of farms in the country.

Conclusion

The analysis of the post-communist transition and EU integration of Bulgarian agriculture has found out that fundamental property

rights and institutional modernization has been associated with the evolution of a specific farming structure consisting of numerous small-scale and subsistent holdings and a few large cooperatives and agro-firms.

Various type of farms have quite different efficiency, adaptability, and sustainability in the specific Bulgarian conditions of undeveloped markets, badly defined and/or enforced formal rights and rules, inefficient forms of public intervention, specific "Bulgarian" way of EU "common" policies implementation, dominant informal "rules of the game" etc. What is more, diverse farming organizations possess unlike competitive advantages in rapidly changing market, institutional and natural environment. While most market farms are with a good competitiveness, a great part of agri-firms are highly competitive, and a considerable fraction of unregistered holdings and cooperatives uncompetitive.

EU CAP implementation in the country affects in dissimilar ways the income, efficiency, sustainability and competitiveness of farms of different types. It has got an overall positive impact on cooperatives, firms of different type, big farms, holdings specialized in field crops, and farms located in plan regions and areas with natural handicaps. Despite that the CAP implementation affects favorably the income, efficiency, sustainability and competitiveness of a portion of other type of holdings, the overall impact of CAP for the majority of agricultural holdings in the country is either insignificant or neutral. What is more, for a good fraction of small holdings, unregistered farms, farms specialized in vegetables, permanent crops, livestock, and mix crop-livestock, and holdings in mountainous regions the CAP implementation has been associated with negative effects.

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