



Munich Personal RePEc Archive

Competitiveness of Bulgarian farms

Bachev, Hrabrin

Institute of Agricultural Economics, Sofia

1 September 2010

Online at <https://mpra.ub.uni-muenchen.de/25626/>
MPRA Paper No. 25626, posted 06 Oct 2010 15:05 UTC

COMPETITIVENESS OF BULGARIAN FARMS

Hrabrin Bachev¹

Institute of Agricultural Economics, Sofia

Abstract

This paper suggests a holistic framework for assessing farm competitiveness, and analyses competitiveness of different type of Bulgarian farms. First, it present 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 and efficiency 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.

Key words: efficiency, adaptability, sustainability, and competitiveness of farms, transitional agriculture, EU integration, Bulgaria

¹ Correspondence should be addressed to Hrabrin Bachev, Institute of Agricultural Economics, 125 Tzarigradsko Shose Blvd., Blok 1, 1113, Sofia, Bulgaria, e-mail: hbachev@yahoo.com

INTRODUCTION

The issue of farm competitiveness 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 [Benson; Delgado *et al.*; Farmer; Fertő and Hubbard; Mahmood; Popovic *et al.*; Pouliquen; Shoemaker *et al.*; Zawalinska]. 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, practically there is no comprehensive study on farm competitiveness in Bulgaria during post-communist transition and EU integration.

This paper suggests a holistic framework for assessing farm competitiveness, and analyses competitiveness of different type of Bulgarian farms.

First, it present 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 and efficiency of farming organizations during post communist transition and EU integration in Bulgaria, and assesses levels and factors of competitiveness of different type and kind of farms in the conditions of CAP implementation.

1. FRAMEWORK FOR ASSESSING FARM COMPETITIVENESS

1.1. Definition of farm competitiveness

Farm competitiveness characterizes the *ability (internal potential, incentives) of a farm to compete on (a) market successfully* [Bachev 2010b]. 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 (subsistence holding, member oriented cooperative), or it is quasi or entirely integrated in a larger venture (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* (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. [Bachev 2004]. 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.

1.2. Criteria for farm competitiveness

A farm will be competitive if it is *efficient*, and *adaptive*, and *sustainable* [Bachev 2010b].

Thus, there are three *criteria* for assessing the competitiveness of a farm (Figure 1).

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 can not 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 farm's potential to economize on governance costs are completely ignored.

Farm is not only a production but a *governance* structure [Bachev 1996, 2004]. Besides production costs farming activity is usually associated with significant *transaction costs*². For instance, there are costs for studying and complying with various institutional requirements (laws, standards, informal norms); for finding best prices and partners; for

² *Production costs* are the cost associated with proper technology ("combination of production factors") of certain farming, servicing, environmental, community development etc. activity. The *transaction costs* are the costs for governing the economic and other relations between individuals.

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, arbitrage or another way); for adjusting or termination along with the evolving conditions of exchange etc.

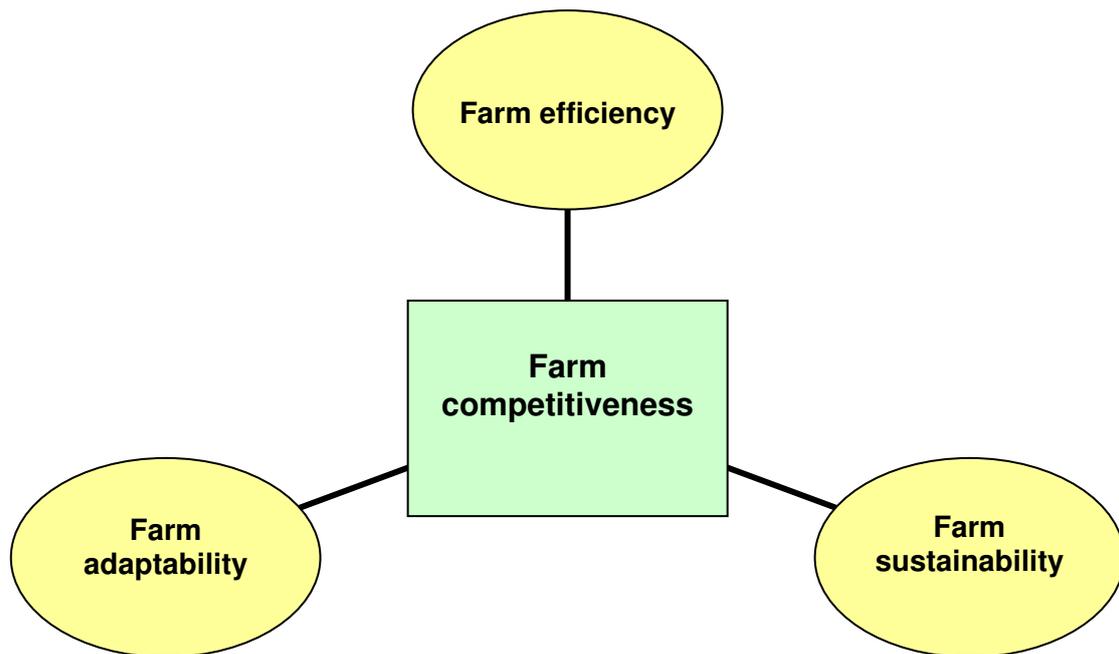


Figure 1. Criteria for assessing competitiveness of farm

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. [Bachev 2004]. 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.)³.

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.

³ Indeed, a significant variation in productivity and profitability has been found in all estimates on "efficiency" of different farms during transition now in countries from Central and East Europe [Bachev, 2004; Csáki and Lerman; Gortona and Davidova; Mathijs and Swinnen; Zawalinska].

A market farm could be very effective (in optimization of current production and transaction costs) but unless it possesses 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 latter 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.).

For instance, in Bulgaria there are many highly productive (small scale, livestock etc.) farms which are *not able* to 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 [Bachev and Nanseki; Bachev 2010].

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 (merely 3% of 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 farm’s potential for adaptation to specific market, institutional and natural environment.

Third, farm sustainability – that is farm’s ability to maintain (continue) over time [Bachev 2005; Bachev and Peeters].

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 [Bachev 2006, 2010]. Most of these farms are individual or family holding operated by old managers⁴, 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 inadaptable 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.

1.3. 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.

Indicators for farm efficiency

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

⁴ 40% of the farm managers in the country are older than 65 (MAF).

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 (Koteva and Bachev) (Figure 2).

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

Figure 2. Indicators for assessing farm competitiveness

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 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 members assets and services with minimum production and/or transaction costs [Bachev 2006].

Indicators for farm adaptability

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 (Figure 2). 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 [Bachev 2005; Bachev 2010].

Indicators for farm sustainability

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, 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 1). *Persistence* of serious *unsolvable* problems in any of the functional areas of the farm management would indicate a *low governance efficiency and sustainability*.

Next, the level of sustainability in supply of each of the factors of production and in the marketing of output is to be determined through *transformation* of the "level of problems in management" into the "levels of sustainability" (Table 2).

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 [Bachev 2005].

Table 1. 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 2. 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

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

Integration of indicators

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*.

First, we have to convert the specific value of indicators for efficiency, adaptability and sustainability into universal *unitless* values. An exemplary scale for conversion of the qualitative indicators for overall efficiency, adaptability and sustainability into universal (unitless) indicators is presented in Table 3.

Table 3. 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

Next, we could calculate an integral Index of Farm Competitiveness (I_c) by multiplying the Index of Farm Efficiency (I_e), Index of farm adaptability (I_a) and Index of Farm Sustainability (I_s) using formula:

$$I_c = I_e \cdot I_a \cdot I_s$$

The value of I_c would vary between 0 and 1, as a farm would be *highly competitive* when I_c is 1, *uncompetitive* when I_c is 0, and with a range of different (low, good etc.) levels of competitiveness when I_c 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.

2. LEVEL OF COMPETITIVENESS OF BULGARIAN FARMS

2. 1. Evolution, efficiency and sustainability of farms

Unregistered holdings

Post-communist privatization of farmland and other agrarian resources has contributed to a rapid development of private farming in the country. There emerged more than 1,7 million private farms of different type after 1990 (Table 4).

Majority of newly evolved farms are *unregistered farms* (Physical persons). They concentrate the main portion of agricultural employment and key productions like livestock, vegetables, fruits, grape etc. (Table 5).

Table 4. Evolution and importance of different type farms in Bulgaria

	Public farms	Unregistered	Cooperatives	Agro-firms	Total
Number of farms					
1995	1002	1772000	2623	2200	1777000
2000	232	755300	3125	2275	760700
2005		515300	1525	3704	520529
2007		458617	1281	5186	465084
Share in number (%)					
1995		99.7	0.1	0.1	100
2000		99.3	0.4	0.3	100
2005		99.0	0.3	0.7	100
2007		98.6	0.3	1.1	100
Share in farmland (%)					
1995	7.2	43.1	37.8	11.9	100
2000	1.7	19.4	60.6	18.4	100
2005		33.5	32.6	33.8	100
2007		32.2	24.7	43.1	100
Average size (ha)					
1995	338.3	1.3	800	300	2.8
2000	357.7	0.9	709.9	296.7	4.7
2005		1.8	584.1	249.4	5.2
2007		2.2	613.3	364.4	6.8

Source: National Statistical Institute and Ministry of Agriculture and Food

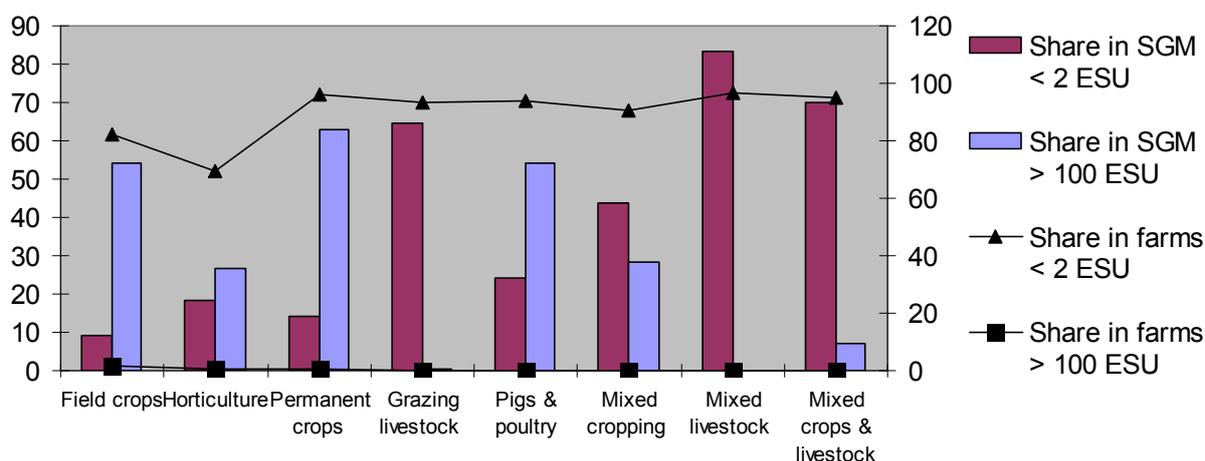
Unregistered farms are predominately *subsistence*, *semi-market* and *small-scale commercial* holdings. According to the official data the farms smaller than 2 European Size

Unit (ESU)⁵ comprise the major share of all farms in main agricultural subsectors (Figure 3). What is more, in livestock activities they account for the bulk of the Standard Gross Margin (SGM) in related subsectors.

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	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	13.0	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 (%)	96.0	1.4	0.8	1.0	0.8
Pigs (%)	60.3	1.4	7.0	30.5	0.8
Poultry (%)	56.5	0.2	13.3	29.3	0.7

Source: MAF, Agricultural Holdings Census in Bulgaria'2003



Source: Ministry of Agriculture and Food

Figure 3. Share of farms with SGM smaller than 2 ESU and bigger than 100 ESU in total SGM and farms with different specialization (percent)

⁵ 1 ECU=1200 Euro. According to the EU classification farms with a size of 2-4 ESU are considered as “semi-market farms”. The actual number of subsistence and semi-subsistence farms is unknown since many of them are not covered by the Agricultural Census.

Agrarian reform has turned most households into owners of farmland, livestock, equipment etc. An *internal organization* of available household resources in an own farm has been an effective way to overcome a great institutional and economic uncertainty, protect private rights and benefit from owed resources, and minimize costs of transacting [Bachev 2000].

During transition, market or contract trade of much of household capital (land, labor, money) was either impossible or very expensive due to: unspecified or completely privatized rights, “over-supply” of resources (farmland, unemployed labor), “missing” markets, high uncertainty and risk, asymmetry of information, enormous opportunism in time of hardship, little job opportunities and security etc. Running up an own farm has been the most effective (or only feasible) mode for productive use of available resources (free labor, land, technological know-how), providing full and part-time employment or favorable occupation for family members, and securing income and effective (cheap, safe, sustainable) food supply for individual households.

Specialization or diversification into small-scale farming has taken place [Bachev 2008], and even now the agriculture is an “additional source of income” for one out of 7 Bulgarians [MAF].

Management of the small-scale farms is not associated with significant costs (Table 6). They are mainly *individual* or *family holdings*, and farm size is exclusively determined by household resources – family labor, own farmland and finance. Internal governing costs are non-existent (one-person farm) or insignificant because the coalition is between family members (common goals, high confidence, and no cheating behavior dominate). Farmers have strong incentives to increase efficiency adapting to internal or market demand, intensifying work, investing in human capital etc. since they own the whole residuals (income).

Nevertheless, 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.

Table 6. Time and efforts for governing of farm transactions in Bulgaria (% of farms)

Efforts and time for:	Level	Type of farms						
		Unregist ered	Coopera tive	Firms	Small	Middle	Large	Total
Finding new workers	big	18,91	14,28	12,5	18,91	18,18	0	15,46
	<i>moderate</i>	8,10	42,85	37,5	5,40	45,45	31,25	27,83
Finding partners selling or leasing-out farmland	big	18,91	35,71	12,5	13,51	31,81	12,5	21,64
	<i>moderate</i>	29,72	14,28	62,5	18,91	40,90	62,5	36,08
Finding suppliers for needed materials, equipment etc.	big	24,32	21,42	50	21,62	34,09	50	31,95
	<i>moderate</i>	29,72	67,85	25	35,13	45,45	31,25	39,17
Finding markets for outputs	big	37,83	42,85	56,25	27,02	56,81	56,25	45,36
	<i>moderate</i>	13,51	35,71	28,12	27,02	20,45	31,25	24,74
Finding the rest of needed information	big	45,94	17,85	15,62	40,54	18,18	25	27,83
	<i>moderate</i>	10,81	21,42	40,62	8,10	31,81	37,5	23,71
Negotiating and preparing contracts	big	18,91	35,71	40,62	16,21	40,90	37,5	30,92
	<i>moderate</i>	27,02	21,42	37,5	21,62	27,27	50	28,86
Controlling implementation of contractual terms	big	48,64	42,85	37,5	45,94	36,36	56,25	43,29
	<i>moderate</i>	5,40	14,28	31,25	5,40	22,72	25	16,49
Resolving conflicts associated with quality and contracts	big	29,72	14,28	59,37	29,72	31,81	56,25	35,05
	<i>moderate</i>	5,40	50	21,87	16,21	31,81	18,75	23,71
Relations with banks and preparing projects for crediting	big	35,13	42,85	59,37	32,43	47,72	68,75	45,36
	<i>moderate</i>	8,10	42,85	37,5	5,40	45,45	31,25	16,49
Associating with registration regimes	big	18,91	17,85	15,62	18,91	18,18	12,5	17,52
	<i>moderate</i>	2,70	21,42	9,37	10,81	13,63	0	10,30
Relations with administration	big	24,32	10,71	18,75	21,62	15,90	18,75	18,55
	<i>moderate</i>	21,62	42,85	40,62	32,43	38,63	25	34,02
Relations with membership organizations	big	18,91	21,42	6,25	16,21	20,45	0	15,46
	<i>moderate</i>	5,40	25	43,75	2,70	40,90	25	23,71
Others	big	5,40	14,28	0	0	13,63	0	6,18
	<i>moderate</i>	0	0	0	0	0	0	0

Source: interviews with farm managers⁶

Cooperative farms

More than 3000 new *production cooperatives* emerged during and after liquidation of ancient “cooperative” structures in 1990s (Table 4). 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 (Table 5).

The cooperative has been the *single* effective form for farming organization in the absence of settled rights on main agrarian resources and/or inherited high

⁶ Survey covers 2,8 % of the cooperatives, 1,2 % of the agro-firms, and 0,3% of the unregistered farms in the country as all holdings were selected as representative for the nation's main regions.

interdependence of available assets (restituted farmland, acquired individual shares in the actives of old cooperatives, narrow specialization of labor) [Bachev 2000].

After 1990 more than 2 millions Bulgarians have got individual stakes in the assets of liquidated ancient public farms. In addition to their small size, a great part of these shares have been in indivisible assets (large machinery, buildings, processing and irrigation facilities). Therefore, new owners have had no alternative but liquidate (through sales, consumption, distortion) or keep these assets as a joint (cooperative) ownership. In many cases, the ownership rights on farmland was restituted with adjoined fruit trees and vineyards, and much of the activities (e.g. mechanization, plant protection, irrigation) could be practically executed solely in cooperation.

Most “new” landowners happened to live away from rural areas, have other business, be old of age, or possess no skills or capital to start own farms. In the absence of a big demand for farmlands and/or confidence in emerging private farming during first years of transition, more than 40% of the new owners pulled their land and assets in the new production cooperatives.

Moreover, most cooperatives have developed along with the new small-scale and subsistent farming. Namely, “non-for-profit” character and strong member (rather than market) orientation have attracted the membership of many households. In transitional conditions of undeveloped markets, high inflation, and big unemployment, the production cooperative has been perceived as an effective (cheap, stable) form for supply of highly specific to individual farms inputs and services (e.g. production of feed for animals; mechanization of major operations; storage, processing, and marketing of farm output) and/or food for households consumption.

The cooperative rather than other formal collective (e.g. firm) form has been mostly preferred. Cooperatives have been initiated by older generation entrepreneurs and a long-term “cooperative” tradition from the communist period has a role to play. Besides, this mode allows individuals an easy and low costs entree and exit from the coalition, and preservation of full control on a major resource (such as farmland), and “democratic” participation in and control on management (“one member-one vote” principle).

In addition, the cooperative form gives some important tax advantages such as tax exemption on sale transactions with individual members and on received rent in kind. Also for coops there are legal possibilities for organization of transactions not legitimate for other modes such as credit supply, marketing, and lobbying at a nation-wide scale⁷.

⁷ Forbidden for business firms by the Double-taxation and Antimonopoly Laws.

Relatively bigger operational size gives cooperatives a great opportunity for efficient use of labor (teamwork, internal division and specialization of work), farmland (cultivation in big consolidated plots, effective crop rotation, environment protection), and material assets (exploration of economies of scale and scope on large machinery etc.).

In addition, cooperatives have a superior potential to minimize market uncertainty (dependency) and increase marketing efficiency (“risk pooling”, advertisement, storing, integration into processing and direct marketing); and organize some critical transactions (better access to commercial credit and public programs; stronger negotiating positions in input supply and marketing deals; facilitate land consolidation through simultaneous lease-in and lease-out contracts; introduce technological innovations; effective environmental management); and invest in intangible capital (good reputation, own labels, brand names) etc.

In a situation of “missing markets” in rural areas, the cooperative mode is also the single form for organization of certain important activity such as bakery, processing, retail trade, recreation etc.

The cooperative activity is not difficult to manage since internal (members) demand for output and services is known and “marketing” secured (“commissioned”) beforehand (Table 6). In addition, cooperatives concentrate on few highly standardized (mass) products (such as wheat, sunflower etc.) with a stable market and high profitability.

Furthermore, the cooperative applies low costs long-term lease for the effective land supply from members. Output-based payment of labor is common which restrict opportunism and minimize internal transaction costs. Besides, cooperatives provide employment for members who otherwise would have no other job opportunities - housewives, pre- and retired persons. Moreover, they are preferable employer since they offer a higher job security, social and pension payments, paid day-offs and annual holidays, opportunity for professional (including career) development.

Giving the considerable transacting benefits most cooperative members accept a lower (than market) return on their resources - lower wages, inferior or no rent for land and dividends for shares.

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.

At the same time, many cooperatives have shown certain *disadvantages* as a form for farm organization. A big membership of the coalition (averaging 240 members per coop) makes individual and collective control on the coop's management very difficult and costly. That gives a great possibility for mismanagement and/or let using cooperatives in the best interests of managers or groups around them (on-job consumption, unprofitable for members' deals, transfer of profit and property, corruption)⁸.

What is more, majority of the new cooperatives did not overcome the incentive problems associated with the collective team working in the old public farms - over employment, equalized remuneration, authoritarian management, adverse feeling towards private farming, system of personal plots etc. [Bachev 2006].

Furthermore, there are differences in the investment preferences of diverse members (old-younger; working-non-working; large-small shareholders) due to non-tradable character of cooperative shares (so called "horizon problem"). While working and younger members are interested in long-term investments and growth of salaries, income in kind, other on-job benefits, the older and not working members favor higher current gains (income, land rent, dividend).

Given the fact that most cooperative members in the country are small shareholders, and older in (pre-retired and retired) age, and non-permanent employees, the incentives for long-term investment for land improvement and renovation of outdated and physically amortized machinery, buildings, orchards, vineyards etc. have been very low.

Finally, many cooperatives fall short in adapting to diversified (service) needs of members, and evolving market demand and growing competition. For all these reasons, the economic performance of production cooperatives has not been good. Accordingly, the efficiency of cooperatives has diminished considerably in relation to other modes of organization (market, contract, partnership etc.). Many landlords have pooled out their land from the cooperatives since property rights on farmland were definitely restored in 2000.

⁸ The latter has been "assisted" by the lack of any (outside) public control on the cooperative's activity.

Consequently, a significant reduction of cooperative activity has taken place and a big amount of cooperatives ceased to exist in recent years.

Agri-firms

There has been a “boom” in creation of different type *agri-firms* after 1990 as their number and importance have augmented enormously (Table 4). They account for a tinny 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 (Table 5, Figure 4).

Business farms are commonly *large specialized enterprises*. Most of them have been set up as *family* and *partnership* organization during first years of transition by younger generation entrepreneurs - former managers (specialists) of public farms, individuals with high business spirit and know-how etc.

Majority of these farms are formally registered as *Sole Traders*. In addition, some state farms and agri-firms have been taken over by former managers and teams and registered as *Shareholdings* (Companies, Associations). Furthermore, different sort of *joint ventures* with non-agrarian and foreign capital increasingly appear as well.

The specific management skills and the “social” status as well as the combination and complementarities of partner’s assets (technological knowledge, business and other ties, available resources) have let a rapid extension of business farms through enormous concentration of (management of, ownership on) resources, and exploration of economies of scale and scope, and modernization of enterprises [Bachev 2000].

The specific mode and the pace of privatization of agrarian resources have facilitated a fast consolidation of the fragmented land ownership and agrarian assets in the large farms. During the long period of institutional and market transformation (unsettled rights on resources, imperfect regulations, huge uncertainty and instability) the personal relations and “quasi” or entirely integrated modes have been extensively used to overcome transaction difficulties.

Furthermore, the large operational size of these enterprises gives enormous possibilities to explore technological opportunities (consolidation of land, economies of scale and scope on machineries, cheap and standardized produce etc.) and achieve a high productivity. Business farms have been constantly extending their share in managed agrarian (and related) resources taking over smaller farms, incorporating new types of activities, and applying new organizational schemes.

Business farms are strongly *market* and *profit-oriented* organizations. Farmer(s) have great incentives to adapt to market demand and institutional restrictions investing in farm specific (human, material, intangible) capital because they are sole owners of residual rights (benefits). The owners are commonly family members or close partners, and the internal transaction costs for coordination, decision making, and motivation are not high (Table 6). Increased number of the coalition (partnership) gives additional opportunity for internal division of labor and profiting from specialization – e.g. full-time engagement in production management, technological development, market and “public” relations, paper works, keeping up with changes in laws and standards etc.

Their large size and reputation make business farms a preferable partner in inputs supply and marketing deals. Besides, these farms have a giant negotiating power and effective (economic, political) mechanisms to dominate markets and enforce contracts. They also possess a great potential to collect market and regulatory information, search best partners, promote products, adjust to new market demand and institutional requirements, use outside experts, prepare business and public projects, meet formal (quantity, quality, collateral) requirements, “arrange” public support, bear risk and costs of failures.

In addition, business farms effectively explore economies of scale and scope on production *and* management - e.g. “package” arrangement of outside funding for many projects; interlinking inputs supply with know-how supply, crediting, marketing etc.

Furthermore, large farms have strong incentives and potential for innovation – available resources to test, adapt, buy, and introduce new methods, technologies, varieties; possibility to hire leading (national, international) experts and arrange direct supply from consulting companies or research institutes.

What is more, they are able to invest a considerable relation-specific capital (information, expertise, reputation, lobbying, bribing) for dealing with funding institutions, agrarian bureaucracy, and market agents at national or even at international scale.

The last but not least important, these farms have enormous political power to lobby for Government support in their best interests. All these features give considerable comparative advantages of business type of farming organization.

The *firm mode* is increasingly preferred since it provides considerable opportunities:

- to overcome coalition difficulties - e.g. formation of joint ventures with outside capital, dispute ownerships right through a court system etc;
- to diversify into farm related and independent businesses - trade, agro-tourism, processing etc;

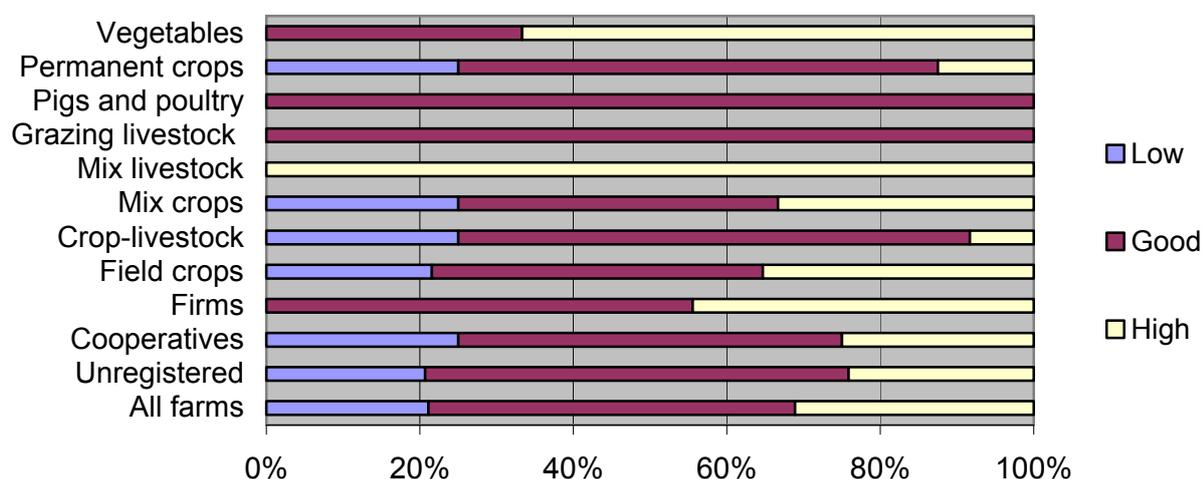
- to develop firm-specific intangible capital (advertisement, reputation, brand names, public confidence) and its exploration (extension into daughter company), trade (sell, licensing), and intergeneration transfer (inheriting);
- to overcome existing institutional restrictions - e.g. for direct foreign investments in farmland, trade with cereals, vine and dairy etc;
- to have explicit rights for taking parts in particular types of transactions - e.g. export licensing, privatization deals, assistance programs etc.

2.2. Level of competitiveness of commercial farms

The assessment on the competitiveness of commercial farms in the country has found out that the majority of surveyed farms⁹ are with a *good* and *high* competitiveness (Figure 5). 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.



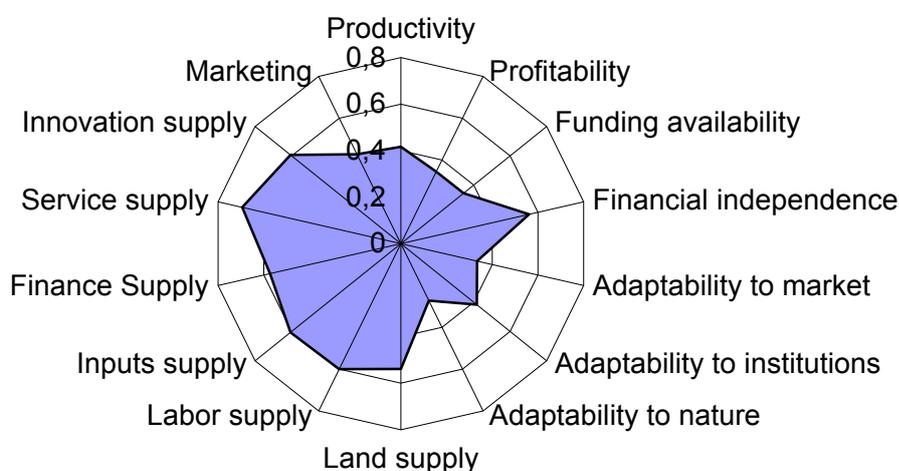
Source: interviews with farm managers

Figure 5. Share of farms with different levels of competitiveness in Bulgaria

⁹ based on 2010 interviews with farm managers of 58 unregistered holdings, 104 cooperatives, and 18 agri-firms.

Most of the highly competitive farms are specialized in *mix livestock*¹⁰ 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 fourth farm is non-competitive.

The analysis of different *aspects* of the farms competitiveness 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 extend to decreasing the overall level of farms competitiveness (Figure 6).



Source: interviews with farm managers

Figure 6. Importance of individual elements of farm competitiveness in Bulgaria

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 7).

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.

¹⁰ The number of surveyed farms in groups with specialization in "Mix livestock", "Grazing livestock", and "Pigs and poultry" is very small (only 2).

Table 7. 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	9,804	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

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.

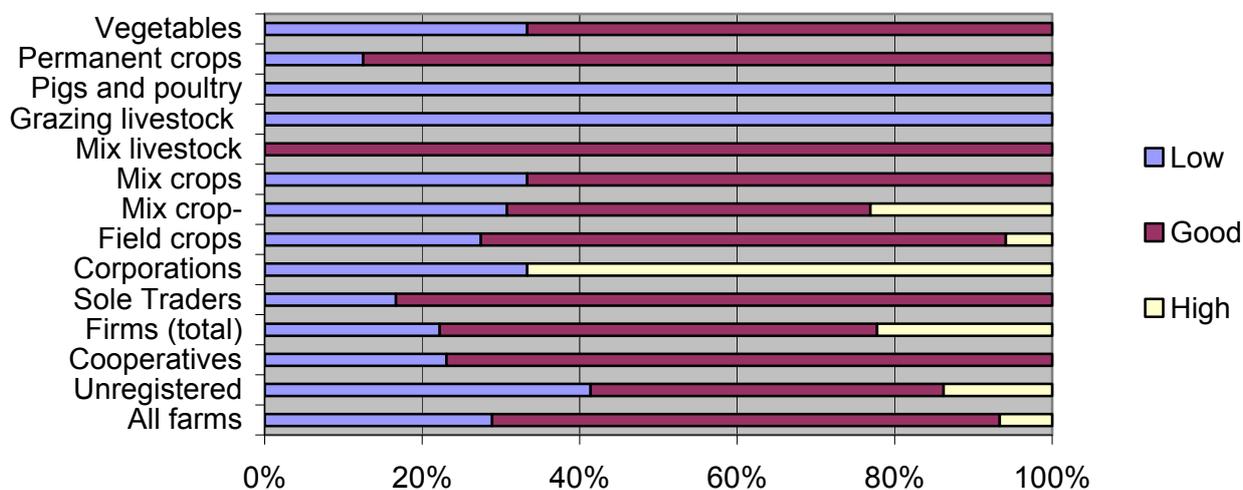
The analysis of the *level of adaptability* of surveyed farms has found out that more than a quarter of them are with a low potential for adaptation to *new state and EU quality, safety, environmental etc. standards*, almost 37% are less adaptable to *market demand, prices and competition*, and every other one is inadaptable to *evolving natural environment* (warning, extreme weather, droughts, floods, etc.) (Table 8).

Table 8. 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

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 (Figure 7).



Source: interviews with farm managers

Figure 7. Share of farms with different levels of medium-term sustainability in Bulgaria

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 9). Apparently, the latter farms have no (internal) adaptation potential to overcome these type of problems and will be unsustainable (inefficient) in a longer run¹¹.

¹¹ These farms either have to restructure production, or reorganize farm (new governance), or will disappear in near future.

Table 9. 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

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 effective *supply of needed land and natural resources* face a quarter of farm 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.

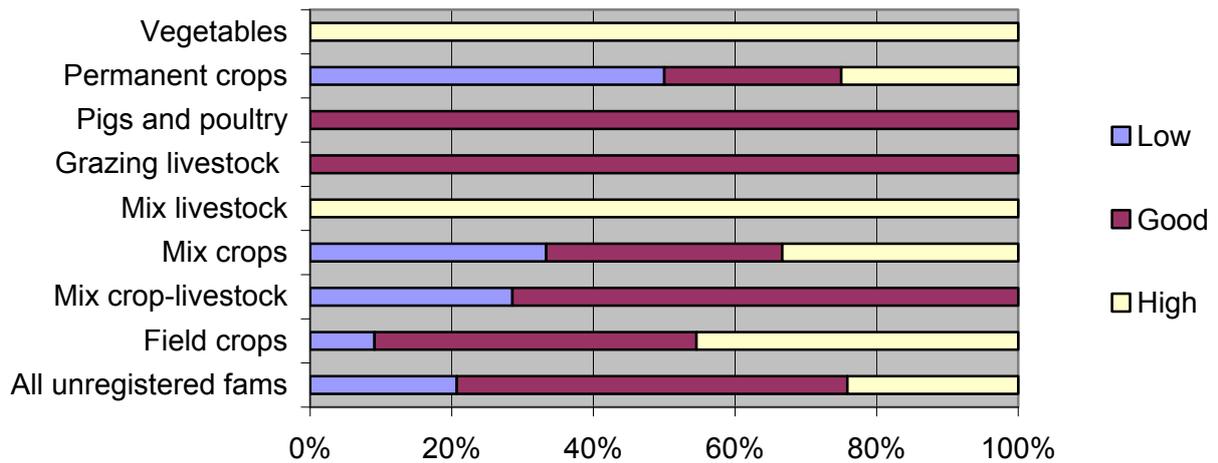
Competitiveness of unregistered farms

The majority of surveyed unregistered holdings are with a *good* level of competitiveness, and around 24% of them are *highly* competitive (Figure 8). 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.

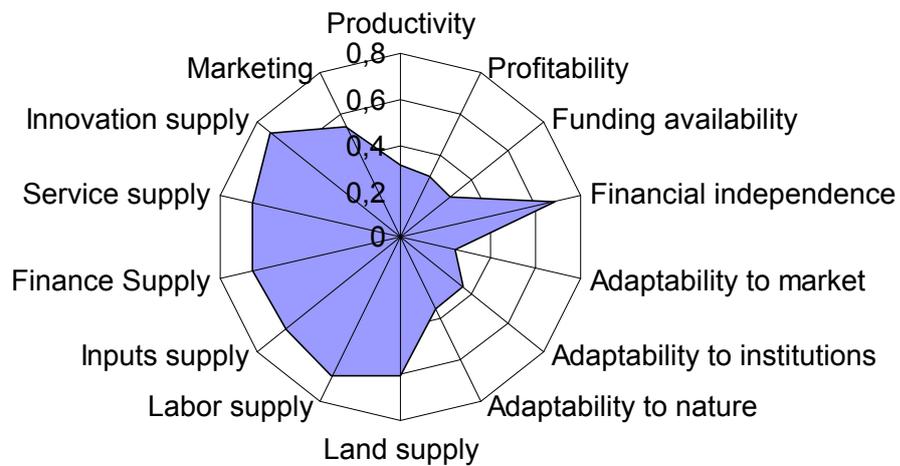
Most highly competitive farms are in *vegetables, field crops, and mix livestock* productions. On the other hand, a half of the holdings in *permanent crops*, a third of all farms in *mix crops*, and 29% of *mix crop-livestock* operators are with a low level of competitiveness.

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 (Figure 9).



Source: interviews with farm managers

Figure 8. Share of unregistered farms with different levels of competitiveness in Bulgaria



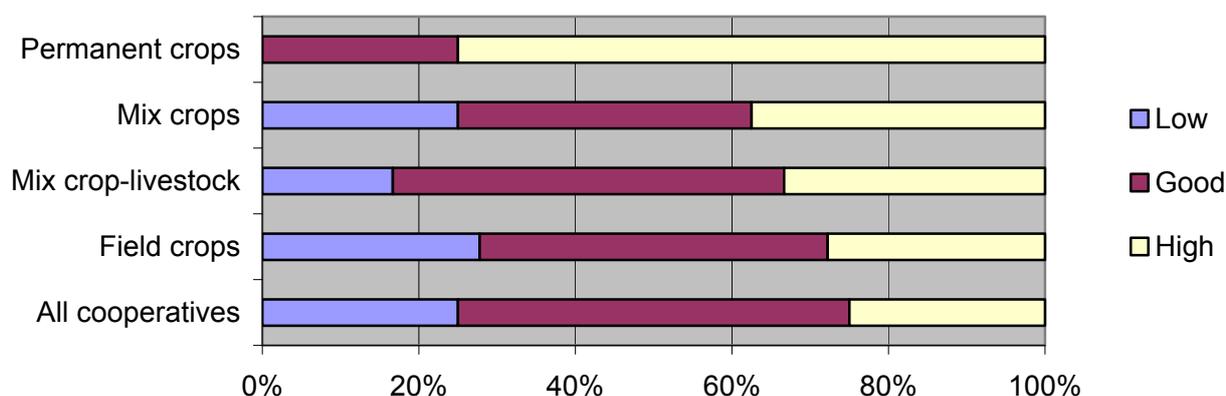
Source: interviews with farm managers

Figure 9. Importance of individual elements of competitiveness of unregistered farms in Bulgaria

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.

Competitiveness of cooperative farms

A half of surveyed cooperatives are with a *good* level of competitiveness, and a quarter of them are *highly* competitive (Figure 10). At the same time, one out of four cooperatives is not competitive.



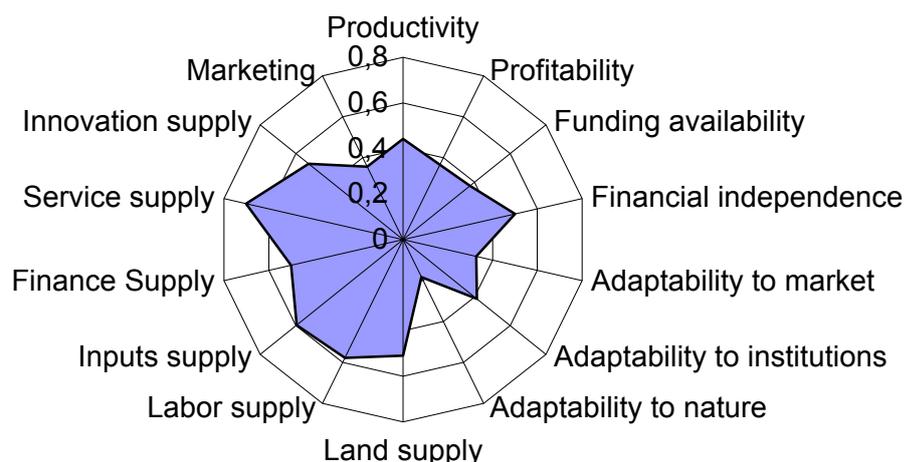
Source: interviews with farm managers

Figure 10. Share of cooperatives with different levels of competitiveness in Bulgaria

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 (Figure 11).



Source: interviews with farm managers

Figure 11. Importance of individual elements of competitiveness of cooperatives in Bulgaria

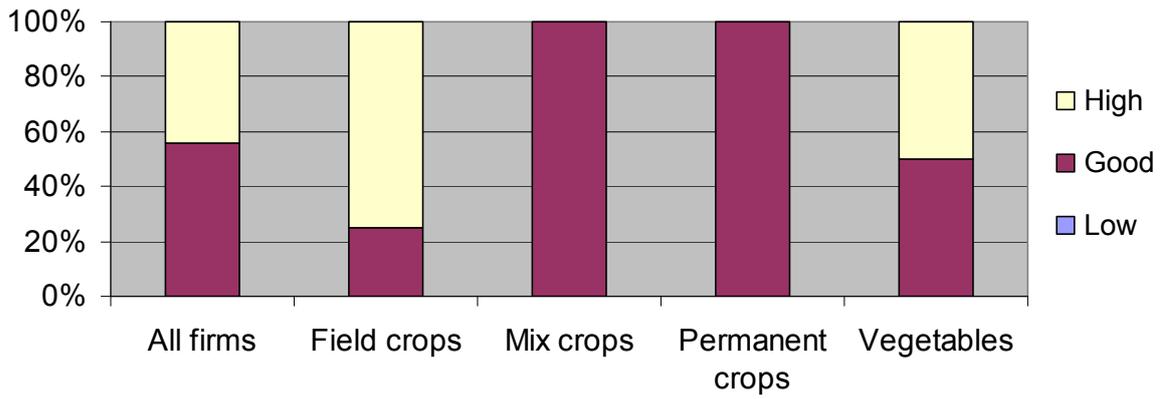
Competitiveness of agri-firms

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 (Figure 12).

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.

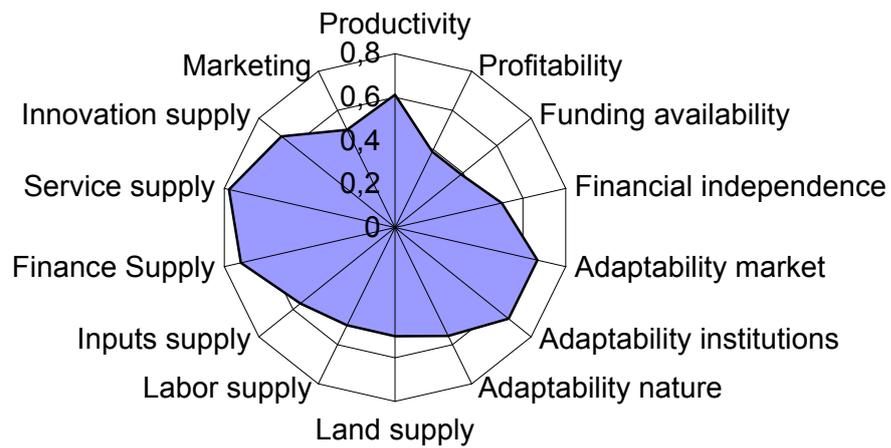
The analysis of individual *factors* the competitiveness of agri-firms exposed that the low productivity, profitability, funding availability and independency, and the serious problems in labor and land supply and marketing, greatly contribute to decreasing firms competitiveness (Figure 13).

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.



Source: interviews with farm managers

Figure 12. Share of agri-firms with different levels of competitiveness in Bulgaria



Source: interviews with farm managers

Figure 13. Importance of individual elements of competitiveness of agri-firms in Bulgaria

CONCLUSION

We have demonstrated that the New Institutional and Transaction Costs Economics is a powerful methodology which let us better understand the “logic” and adequately assess the farm efficiency and competitiveness in the specific market, institutional and natural environment of Bulgarian agriculture.

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 evolution of a specific farming structure consisting of numerous small-scale and subsistent holdings and a few large cooperatives and agro-firms. Furthermore, agrarian agents have developed and use a great variety of effective contractual arrangements to govern their relations, resources and activities – formal, informal, simple, complex, interlinked, market, private, collective, bilateral, trilateral, multilateral, hybrid etc.

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.

Suggested new approach for assessing farm competitiveness has a significant academic as well as practical importance.

First, it provides a new framework for analyzing and assessing farm contracts and competitiveness in individual sub-sectors, regions, and countries.

Next, it gives new tools for assisting the design of individuals, business, and collective contracts and organizations, and for improving public policies and forms of public intervention in agrarian sector.

Finally, it gives new devices for making more realistic prediction about likely prospects of development of farming structures in the specific conditions of different sub-sectors, regions, and countries.

REFERENCES

- Bachev, H. (1996). *Organization of Agrarian Transactions in Transitional Economies*, paper presented at the 8th Congress of the European Association of Agricultural Economists "Redefining the Roles for European Agriculture", 3-7 September, Edinburgh.
- Bachev, H. (2000). Bulgarian Experience in Transformation of Farm Structures, *Farm Management and Rural Planning No 1*, Fukuoka: Kyushu University Press, 181-196.
- Bachev, H. (2004). Efficiency of Agrarian Organizations, *Farm Management and Rural Planning No 5*, Fukuoka: Kyushu University Press, 135-150.
- Bachev H. (2005). *Assessment of Sustainability of Bulgarian Farms*, paper prepared for presentation at the XIth Congress of the EAAE "The Future of Rural Europe in the Global Agri-Food System", Copenhagen, Denmark, August 24-27, 2005 www.eaae2005.dk/POSTER_PAPERS/SS34_16_Bachev.pdf
- Bachev, H. (2006). Governing of Bulgarian Farms – Modes, Efficiency, Impact of EU Accession, In: J., Curtiss, A., Balmann, K. Dautzenberg, and K. Happe, (editors), *Agriculture in the Face of Changing Markets, Institutions and Policies: Challenges and Strategies*, Halle (Saale): IAMO, 133-149.
- Bachev, H. (2007). National Policies Related to Farming Structures and Sustainability in Bulgaria, In: A., Cristoiu, T., Ratering, S. Gomez, and Y. Paloma, (Editors), *Sustainability of the Farming Systems: Global Issues, Modeling Approaches and Policy Implications*, Seville: EU JRC IPTS, 177-196.
- Bachev, H. (2008). Post Communist Transformation in Bulgaria-Implications for Development of Agricultural Specialization and Farming Structures, in S. Ghosh (Editor), *Agricultural Transformation: Concepts and Country Perspectives*, Punjagutta: The Icfai University Press, 91-115.
- Bachev, H. (2010a). *Governance of Agrarian Sustainability*, New York: Nova Science.
- Bachev, H. (2010b). *Management of Farm Contracts and Competitiveness*, Saarbrücken: VDM Verlag
- Bachev, H. and Tsuji, M. (2001). Structures for Organization of Transactions in Bulgarian Agriculture, *Journal of the Faculty of Agriculture of Kyushu University, No 46(1)*, 123-151.
- Bachev, H. and Kagatsume, M. (2002). Governing of Financial Supply in Bulgarian Farms, *The Natural Resource Economics Review No 8*, Kyoto: Kyoto University Press, 131-150.

- Bachev, H. and Manolov I. (2007). *Inclusion of small scale dairy farms in the supply chain in Bulgaria (a case study from the Plovdiv region)*, Regoverning Markets Innovative Practice series, London: International Institute for Environment and Development.
- Bachev, H. and Nanseki, T. (2008). *Risk Governance in Bulgarian Dairy Farming*, paper presented at the 12th Congress of the European Association of Agricultural Economists “People, Food and Environments–Global Trends and European Strategies”, 26-29 August 2008, Ghent
(<http://ageconsearch.umn.edu/bitstream/44136/2/240.pdf>).
- Bachev, H. and Peeters, A. (2005). Framework for Assessing Sustainability of Farms, *Farm Management and Rural Planning No 6*, Fukuoka: Kyushu University, 221-239.
- Benson, G. (2007). *Competitiveness of NC Dairy Farms*, North Carolina State University, <http://www.ag-econ.ncsu.edu/faculty/benson/DFPPNatComp01.PDF>
- Csáki, C. and Lerman, Z. (2000). *Structural change in the farming sectors in Central and Eastern Europe*, World Bank Technical Paper Volume 465, Washington DC.
- Fertő, I. and Hubbard, L. (2001). *Revealed Comparative Advantage and Competitiveness in Hungarian Agri-food Sectors*, 2002KTK/IE Discussion Papers 2002/8, Institute of Economics Hungarian Academy of Sciences, Budapest.
<http://econ.core.hu/doc/dp/dp/mtdp0208.pdf>
- Gortona M. and Davidova, S. (2003). *Farm productivity and efficiency in the CEE applicant countries: a synthesis of results*, Elsevier B.V..
- Koteva, N. and Bachev, H. (2010). Framework for Assessing Competitiveness of Agricultural Farms, *Agricultural Economics and Management No 1*, 32-43.
- Mathijs, E. and Swinnen, J. (1997). *Production Organization and Efficiency during Transition: An Empirical Analysis of East German Agriculture*, Policy Research Group, Working Paper No. 7, <http://www.agr.kuleuven.ac.be/aee/clo/prgwp/prg-wp07.pdf>
- MAF (2009). *Agrarian paper*. Sofia: Ministry of Agriculture and Food.
- Mahmood, K., Saha, A., Gracia, O. and Hemme, T. (2004). *International competitiveness of small scale dairy farms in India/Pakistan*,
<http://www.tropentag.de/2004/abstracts/full/376.pdf>
- NSI (2009). *Statistical Book*. Sofia: National Statistical Institute.
- North, D. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- Popovic, R., Knezevic, M. and Tosin, M. (2009). *State and Perspectives in Competitiveness of one farm type in Serbia*, paper presented at the 113 EAAE

Seminar “The Role of Knowledge, Innovation and Human Capital in Multifunctional Agriculture and Territorial Rural Development”, Belgrade, December 9-11, 2009.

<http://ageconsearch.umn.edu/bitstream/57416/2/Popovic%20Rade%20cover.pdf>

Pouliquen, A. (2001). *Competitiveness and farm incomes in the CEEC agri-food sectors. Implications before and after accession for EU markets and policies,*

http://ec.europa.eu/agriculture/publi/reports/ceeccomp/sum_en.pdf

Shoemaker, D., Eastridge, M., Breece, D., Woodruff, J., Rader, D. and Marrison, D. (2009). *15 Measures of Dairy Farm Competitiveness,*

<http://ohioline.osu.edu/b864/pdf/864.pdf>

Zawalinska, K. (2005). *Changes in Competitiveness of Farm Sector in Candidate Countries Prior to the EU Accession: The Case of Poland,* Paper presented at the 11th Congress of the EAAE “The Future of Rural Europe in the Global Agri-Food System”. Copenhagen, August 24-27, 2005.

<http://ageconsearch.umn.edu/bitstream/24520/1/cp05za01.pdf>