Impact of institutional modernization and EU integration on Bulgarian farms

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March 2008

IMPACT OF INSTITUTIONAL MODERNIZATION AND EU INTEGRATION ON FARM STRUCTURES AND SUSTAINABILITY IN BULGARIA

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1. Introduction

There has been a fundamental institutional modernization of Bulgarian agriculture after 1990 when post-communist transition and European Union (EU) integration has taken place. Bulgaria has joint the EU (January 1, 2007) with farming sector governed by quite *specific* (different from other EU and transitional countries) structures: a huge part-time and subsistence farming, and over-integrated and cooperative modes, and big reliance on "personal relations" at a large scale, and domination of primitive and "gray" structures, and weak markets, and poorly working formal institutions, and inefficient public support programs, and massive corruption etc. (Bachev 2005a, 2006). Therefore, EU Common Agricultural Policy (CAP) would likely be implemented in a particular *"Bulgarian way"* and achieve dissimilar results from other EU countries.

In Bulgaria, and other new-member and candidate countries there are no comprehensive studies on agrarian governance structures. Besides, there are few projects on specific impact of institutional modernization and EU integration on farm structures and sustainability (EU 2005a). Analyses are usually restricted to individual modes and particular type of farms (cooperatives, commercial, subsistence) or contracts (land supply, financing, marketing). Besides, uni-disciplinary approach dominates in economic studies as accent is exclusively put on farms "productivity" and "profitability". Furthermore, a traditional (Neoclassical) framework is mostly applied assuming "institutional neutrality" and ignoring significant transaction costs. What is more, studies are focused merely on formal private and public forms disregarding widespread informal modes and mechanisms. Moreover, "normative" (to some ideal)[1] rather than comparative institutional approach (between feasible alternatives) is broadly used. Likewise, uni-sectoral analyses are employed, and the governance of farming is separated from the rest of household's activities. And finally, there are little studies on specific institutional, economic, cultural, etc. factors responsible for the big variation among countries and regions[2].

This paper incorporates achievements of a new inter-disciplinary methodology of the New Institutional and Transaction Costs Economics (integrating Economics, Organization, Law, Sociology, Behavioral and Political Sciences) into analysis of Bulgarian agriculture, and assess impact of institutional modernization and EU integration on farm structures and sustainability.

Firstly, the new institutional and transacting costs economics framework is briefly presented concentrating on: evolution of formal and informal institutions; structure of transacting costs and their institutional, behavioral, dimensional and technological factors; comparative efficiency of alternative market, contract, internal, and hybrid modes of governance; farm as a governance structure with a production and transaction optimization function.

[1] E.g. institutional structure and model of farming in old EU countries.

[2] That has been also recognized by the specially organized EU workshops on CAP reforms and implementation (EU 2004, 2005a).

Secondly, an analysis is made on development of institutional environment for agrarian sector in Bulgaria, and its impact on newly evolving farming structure and on public readiness to implement EU CAP.

Third, pace of evolution, and "high" efficiency and sustainability of dominating agro-firms, production cooperatives, subsistence farming, and small commercial farms are explained, and prospects of their development in conditions of EU integration and CAP implementation determined.

Forth, specific modes for governing of land supply, and labor supply, and service supply, and inputs supply, and finance supply, and insurance supply, and marketing in different type and kind commercial farms are identified, and their comparative efficiency assessed.

Fifth, feasible pace of CAP implementation and further EU integration is projected, and likely impact on economic, environmental, social and organizational sustainability of farms estimated.

This research would have a significant academic and practical (policy and business forwarded) importance. It will help better understand the specific "Bulgarian model" of transition and European integration; and give new insights on the role and efficiency of specific market, private, public, hybrid etc. modes of governance; and comprehend the "real" efficiency and sustainability of different farms and contractual arrangements; and present more realistic picture of prospects of EU integration, CAP implementation, and farming development. It would also assist improvement of public policies and programs at local, national, and EU levels, and market strategy, organizational and contract design of agrarian agents. Last but not least important, lessons from the "good" and "bad" Bulgarian experiences in institutional transformation could be effectively used by other candidate and transitional countries.

2. Methodology

In this paper we incorporate a framework of the new developing *New Institutional and Transaction Costs Economics* (Coase 1937, 1960; Furuboth and Richter, 1998; North 1990; Williamson 1996) into analysis of Bulgarian agriculture. Following this "new" logic we study institutions and transactions costs as crucial factors affecting agent's behavior, and eventually determining the "specific" governing structures (typical farming organizations, contractual modes, informal and gray structures etc.).

Firstly, we examine how the post-communist transformation and EU integration change the *institutional environment* ("rules of the game") in Bulgarian agriculture - that is the specific *structure of property rights and the system for enforcement of these rights*[3]. That analysis includes the entire spectrum of rights and restrictions: on natural resources, material assets, activities, public support, food safety, clean environment, inter-generational justice etc. Besides, it embraces evolution of both *formal* institutions (defined by the EU and national laws, regulations, standards, court decisions etc.) and *informal* rules (determined by the tradition, customs, culture, religion, ideology, ethical norms etc.). Furthermore, the extend (efficiency) of enforcement of diverse rights by the state, court system, and other mechanisms (EU pressure, community actions, trust, reputation, private modes, self-enforcement) is specified.

[3] Unlike lawyers who distinguish between property and human rights, for us (the economists) "all rights are propertory rights" (Furuboth and Richter, 1998).

Secondly, individual agrarian transaction and costs associated with transactions are turned into a *basic unit* of analysis. Various market forms of exchange (e.g. spotlight and classical contract), and special contractual arrangements (private ordering, alliances), and one person and collective (cooperation, partnerships, corporation) organizations, and hybrid modes (public intervention, public-private partnerships), all they are considered as *alternative* modes for governing of transactions. Accordingly, selection (or invention) of a particular arrangement for governing of resources, carrying activities, and/or management of transactions, is regarded as *a (transaction) costs minimizing undertaking*.

Third, we determine how the new evolving institutional environment affects the level and structure of *transaction costs* in Bulgarian agriculture – that is the *costs associated with protection and exchange of individuals' rights*[4]. That analysis includes all factors of transaction costs:

- *institutional* – efforts and costs for studying and complying with various institutional restrictions and/or benefiting from new institutional opportunities; for formal registrations; for dealing with authorities (bureaucracy, courts etc.);
- *behavioral* - agents' bounded rationality[5], tendency for opportunism[6], risk aversion, trust, experience, preferences etc.;
- *dimensional* - frequency of transactions between same partners, uncertainty surrounding transactions, assets specificity (dependency) associated with transaction, and appropriability of rights[7];
- *technological* – development of production, storage, transportation, communication, enforcement etc. technologies.

Forth, comparative efficiency (advantages, disadvantages) of different market and private forms in the specific Bulgarian conditions are assessed in terms of capacity to: increase transacting benefits; comply with new market and institutional restrictions; take advantage of new market and institutional opportunities; decrease bounded rationality of agents; reduce uncertainty and risk; improve coordination and incentives; control transactions and protect dependant investments and (absolute and contracted) rights from possible opportunism; resolve disputes; and save current and long-term transacting costs. Likewise, diverse modes for a third party public (Government, EU, international assistance etc.) involvement (through assistance, arbitration, regulation, funding etc.) are judged in terms of their contribution to individual (market and private) transacting - facilitation and minimization of transaction costs, prevention and reduction of unwanted "exchanges", overcoming serious transacting difficulties etc.

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[4] In addition to the production costs the economic agents make significant *transaction* costs for: discovery of the best prices and markets; and finding reliable partners for land, inputs, labor, finance supply and marketing; and negotiating the conditions of exchange; and completing (often writing down) the contract; and enforcing negotiated terms; and disputing through a court or another way; and adjusting or termination along with changing conditions of trade etc.

[5] Economic agents do not possess full information about the system (price ranges, trade opportunities, counterpart's possible behavior, trends in development) and they have to spend to increase their "imperfect rationality" (Williamson 1996).

[6] Individuals are given to opportunism in two *forms*: pre-contractual ("adverse selection") and post-contractual ("moral hazard"). Thus if there is an opportunity for some of transacting sides to get non-punishably an extra rent from exchange he (she) will likely do so. Therefore, significant ex-ante and ex-post investments have to be made to protect transactions from hazard of opportunism (Williamson 1996).

[7] "Frequency", "uncertainty", and "asset specificity" have been identified as "critical dimensions" of transactions by Williamson (1996), and "appropriability" added by Bachev and Labonne (2000).

Fifth, the farm and farming organizations are studied not only as a production structure but as a major *governing structure*[8]. Efficiency of various Bulgarian farms (one person, family, unregistered, cooperative, registered, subsistence, non-for profit, profit making, hybrid), and their horizontal and vertical boundaries is evaluated in terms of their potential to maximize the overall benefits (and minimize the total costs) – both production[9] *and* transaction[10]. Furthermore, level of sustainability of different farms is assessed though their *potential* (incentives, ability) *for adaptation*[11] to evolving market, institutional, natural etc. environment.

Six, specific modes for governing of major type agrarian transactions (land supply; labor supply; service supply; inputs supply; finance supply; insurance supply, and marketing) in Bulgarian commercial farms are identified, and their comparative efficiency assessed through a transaction costs (and discrete structural) analysis[12].

Finally, comparative institutional analysis is applied to project: the feasible pace, modes and extend of EU CAP implementation in "Bulgarian conditions", and likely prospects for further institutional modernization, and probable level of farms adaptation to new institutional and market environment, and possible impact on economic, environmental, social and organizational sustainability of farms.

The study is based on various official report, census, and statistical etc. data. Besides, original data for modes of organization of different type transactions have been collected from the managers of 2.8% of the cooperatives, 1.2% of the agro-firms, and 0.3% of the unregistered commercial farms. All farms were selected by the local agrarian and extension offices as representatives for the main regions of the country. Furthermore, interviews with the leading Bulgarian experts on farm structures (14 scholars from all major universities) have been organized to get assessment on likely impact of CAP implementation on sustainability of different farms.

3. Transformation of Farm Structures

3.1. Institutional framework

The post-communist transformation of Bulgarian agriculture started in 1990 when reforms toward a market economy and EU integration were launched. Transition and modernization of farming sector was much slower and more painful than in other Central and East-European countries. The particular mode and pace of introduction of market institutions and Community acquis have brought about a quite specific farming structure during transition and accession to EU. Bulgarian model for institutional modernization is characterized by:

● *a specific mode for privatization of agricultural land*. Following 1991 Land Law the entire (forcefully) "cooperated" or otherwise nationalized farmland was restituted to previous

[8] Detailed elaboration of that approach is done by Bachev (2004).

[9] Exploration of technological economies of size and scale on specialized and specific capital; maximization of output, income and/or non-material benefits (e.g. satisfaction) etc.

[10] Economizing on transaction costs, maximizing transaction benefits etc.

[11] Our suggestion to use adaptability as a criteria and indicator for sustainability has been incorporated in one of the most advanced European System for Assessing Sustainability of Agriculture Systems – SAFE (Sauvenier *et al*. 2005).

[12] Very often a direct assessment of related transaction costs is very difficult or impossible to make. Therefore, we "align transactions (differing in their attributes) with governance structures (differing in their costs and competence) in discriminating (mainly transaction cost economizing) way" (Williamson 1996).

owners in real boundaries and original (historical or comparable) locations[13]. Unprecedented and a complex land transformation was implemented which took almost 10 years to complete affecting more than 85% of the agricultural land and turning a three-quarters of Bulgarian household into landlords[14]. The privatization of farmland led to rising of a great number of private farms established on provisional or completely restituted land rights[15].

A prolonged institutional vacuum associated with the lack of full private ownership had important consequences for the development of land markets, and the type of farming organization, and the efficiency of land use (Bachev 2000). Sells and long-term lease markets for agricultural land did not emerge until 2000. Leasing on an annual base was a major way for extension of farm size until recently. Agrarian agents were neither able to get full return on their proprietary rights (in sell or lease markets) nor to use the land ownership for organization of other effective transactions (such as joint ventures, collateral against bank credit etc.). A huge part-time and subsistence farming, and production cooperation at a large scale, and little sustainability of bigger agro-firms and cooperatives (based on provisional lease-in contracts), all they come as a result. Reducing and fragmentation of land ownership have been connected with wide-spreading of miniature (subsistence or semi-subsistent) farming, and primitive technologies (backward "technological development"), and a low competitiveness of the majority of newly established farms. Besides, a significant part of the agrarian assets (e.g. irrigation facilities, wine yards, orchards etc.) have been abundant or destroyed, and one-third of productive farmland has been left unused for most of the time. On the other hand, unspecified and/or "ideal" character of the ownership let rapid concentration of farmland management in a small number of huge farms (cooperatives and agro-firms). However, practicing of a short lease on fragmented land in the large business enterprises has been associated with high transacting costs, reluctance of longer-term investment in land, strong preference to one-season crops, and rising environmental problems[16].

- *a specific form for reorganization of former farming structure*. Following the Land Law all old cooperatives and other organizations established on their bases were liquidated and their assets distributed into individual shares[17]. The liquidation of the ancient structures took more than 4 years, and it was associated with large direct costs, enormous mismanagement and distortion of agrarian assets, and unfair allocation of the individual shares (Bachev 2000). The privatization of the agrarian assets contributed to a rapid development of private farming and (to a great extend) predetermined the type of farm organization. More than 2 millions Bulgarians got small stakes in the assets of ancient cooperatives. In many cases the individual shares constituted the initial capital for establishment of new individual or family farms. The nature of acquired shares (mostly

[13] State land comprised around 10% of agricultural land, and it has been used for compensation of private owners, lendsetlment of landless, experimental farming, or leasing out to private entrepreneurs. Currently state land accounts for 4.7% of the farmland in the country.

[14] More than 1.7 million claims for restoration were made with an average size of land per claimant of 2.7 ha for property usually situated in a number of different locations (MAF). Eighty six percent of the claims were made by the heirs (of the original owners) who had to get equal shares in the restituted farmland. Thus acquired "new" private rights on lands were in dozen of millions plots in many instances smaller than 0.1 ha.

[15] After 1991 more than 1.7 million private farms emerged in the country (National Statistical Institute).

[16] Insufficient fertiliser compensation of extracted nitrogen, phosphates and potassium; and non-observing the crop-rotation requirements; and non-complying with anti-erosion and biodiversity norms; and excessive soil and water pollution in some regions etc.

[17] Most divisible assets (livestock, fruit trees, vineyards) were physically distributed among the eligible shareholders. A great part of machinery and buildings were soled out on internal auctions. The remaining portion of individual shares was transferred to the new emerging cooperatives.

livestock) and their petite size[18] affected significantly the scale and (subsistence, part-time) character of a considerable amount of farms. Furthermore, most agents found their individual shares in agrarian assets in a high interdependency. Besides its small size, a great part of individuals stakes were in indivisible assets such as large machinery, buildings, processing and irrigation facilities etc. For new owners there were no any alternative but liquidate (through sales, consumption) or keep them up as a joint (cooperative) ownership. In many cases, the landlords got restituted their plots with fruit trees, vineyards etc., and they could practically execute much of the activities (mechanization, plant protection, irrigation etc.) in a cooperation. Which is more, most land and share-holders happened to live away from rural areas, or have other business, or be old of age, or have no skills or capital to start own farms. In the absence of a big demand for farmland and confidence in the emerging new private modes, the only option was to joint the cooperative. In that way more than 40% of the new owners have pulled their land and assets in the new production cooperatives.

Privatization of the state agrarian property has been very slow and it is still incomplete for some important assets (e.g. enormous hydro-melioration infrastructure, huge "experimental" farms of research institutes etc.). It has been connected with inefficient organization, immense mismanagement and corruption, and formation of quasi-public (private) monopoly companies concentrating critical agrarian assets and services. All these further impede restructuring of the farming system in the country.

● *lack of efficient public support to new evolving farm structures***.** Transitional Bulgarian farming has been one of the least supported in Europe. Until 2000 the public aid was mainly in the form of preferential short-term credit for the grain producers and insignificant support to capital investments[19]. There has been considerable progress in the public support to agrarian sector since 2000 - EU Special Assistance Program for Agriculture and Rural Development (SAPARD), State Fund Agriculture (SFA) etc. However, the overall support to farms rests very little and much below the level in the EU and other countries in the region.[20]. Besides, only a small proportion of the farms benefits from some form of public assistance most of them being large enterprises from the most developed regions[21].

What is more, the public institutions and infrastructure crucial for the effective farming development have not been built in the country[22]: public system for enforcement of laws, regulations, and contracts does not work well; essential property rights (on environmental resources and biodiversity, special and organic products, intellectual agrarian property) are not well defined and/or properly enforced; public support programs are rarely governed effectively and in the best interest of the legitimate beneficiaries; the newly established agricultural advisory system does not serve the majority of farms; urgently needed public

[18] Averaging Bulgarian Leva's equivalent of few hundred euro rapidly inflating by the sky-high depreciation of the local currency during that period.

[19] There were also sporadic inefficient measures to support producers through price guarantee and export regimes. Estimates demonstrate that the Aggregate Level of Support to Agriculture before 2000 was very low, close to zero or even negative (OECD 2000).

[20] For 2001-2005 the share of SAPARD investments and subsidies in Gross Value Added were 3.6% and 1.8% accordingly; SFA's portions of the investment credit in the Gross Value Added was 0.4%, and of the short-term (credits and subsidies) support in the Gross Value of Agricultural Production 0.8%. Only tobacco producers enjoyed a high level of support having a good part of the output (40-46%) subsidised (Bachev 2005a).

[21] Under the SAPARD Measure "Investment in agricultural holdings" only 7.7% of all agro-firms, 2.3% of cooperatives, and insignificant number of unregistered farms got funding from the program as few projects are from the less-developed regions like South-West, North-West, and mountainous parts of the country (Interim Assessment of SAPARD Program in Bulgaria, MAF, 2004).

[22] There have been a great number of bad government (under and over) interventions in agrarian sphere during the transition (Bachev and Tsuji 2001).

system for agrarian insurance has not been introduced; crucial agrarian and rural infrastructure (wholesale markets, irrigation, roads, communication technologies) has not been modernized; public support for initiating and developing farming associations has not been given; multifunctional role of agriculture has not been recognized and financially supported etc. (Bachev 2005a).

Subsequently, the modernization of Bulgarian farms according to the EU (quality, safety, environmental, animal welfare) standards has been delayed; and growth in the farms productivity and competitiveness severely restricted; and technological and income disparity between farms of different type, sub-sectors and regions broadened. All that will have serious negative implications for the competitiveness and sustainability of considerable number of farms after joining the EU (Bachev 2005b). Moreover, a spectrum of specific modes (such as interlinked organization, vertical integration, personal and informal modes) to mitigate "market", "contract", and "government" failures have been broadly used by agents (Bachev and Tsuji 2001), and characterize farming structure in the wake of EU accession.

● *insufficient readiness for implementation of the EU CAP*. For a short period of time country's laws and standards have been harmonized with the immense EU legislation[23]. A good part of this new framework is neither well-known nor clearly understood by the implementing public authorities, and affected private organizations and individuals. In many instances, there have been discrepancies or mistakes in adapting EU regulations to local conditions. Generally, there is not enough readiness for effective implementation of the new policies and standards because of the lack of experience in agents, and adequate administrative capacity, and/or practical possibility for enforcement of novel norms (incomprehension, not-working court system, widespread corruption). In addition to the requirements to fight against corruption and reforming administration and juridical system, the Monitoring Report for the Preparation for EU Membership has also underlined the specific problems associated with CAP implementation in Bulgaria: operability of the Integrated Administration and Control System for CAP, not existence of Land Parcel Identification System, insufficient financial control capacity for Structural Funds implementation, needs for effective measures for collecting dead animals and animal by-products, and control on food safety (EU 2006). Therefore, there will be some time lag until "full" implementation of the CAP depending on the pace of building an effective public and private capacity as well as training of (acquiring learning by doing experience by) bureaucracy, farmers, and other agrarian agents. Besides, there will be significant inequalities in application (enforcement) of new standards in diverse sectors of agriculture, and farms of different type and size, and various regions of the country.

Thus specific ("transitional") farming structure will sustain during first years after EU accession and beyond. It will include diverse private modes for securing quality and safeguard transactions (investments) as well as a large informal (gray or illegal) sector non-conforming with EU standards and norms. Furthermore, having in mind the huge amount of forthcoming funds, there will be expansion of legitimate and illegal modes for taking stakes in the new EU funding by individuals and groups. Thus we should expect new "organizational development" comprising various specialized entities, coalitions, unlawful claims for receiving public subsidies, interlinks involving agrarian bureaucracy, under the table payments, other forms for misuse of public funds and transfers to affiliated individuals and organizations.

[23] Acquis communitaire contains 26000 pieces of legislation accounting for 80000 pages (EU 2005b).

3.2. Development of large business organizations

During the first years of transition there was a "boom" in creation of private farms on the base of restituted farmland and agrarian assets. Most new farms were highly unsustainable and there has been a considerable size adjustment since then (Table 1). Land management has been transferred into few thousands big enterprises while other farms concentrated on labor-intensive activities or got subsistence character.

Large specialized enterprises are one of the immanent features of Bulgarian farming. Most of them are registered as *Sole traders, Companies,* or *Partnerships* (Table 2). The number of agro-firms has increased 20 folds since 1990 and their share in overall resources augmented. They account for a tinny portion of all farms but concentrate a significant part of the Utilized Agricultural Area (UAA), material assets, and certain productions (cereals, industrial crops, orchards, poultry and swine).

Table 1: Evolution of farms with Utilized agricultural area in Bulgaria

Farm size (ha)	Share in farms (%)		Share in land (%)		Average size (ha)	
	1994	2003	1994	2003	1994	2003
0.01-0.1*	44.9	12.72	6.4	0.17	0.15	0.06
0.1 -0.49	18.8	38.02	10.5	2.46	0.6	0.29
0.5-0.99	17.4	25.89	14.8	4.00	0.91	0.68
1-1.99	12.6	13.74	18	4.14	1.54	1.34
2-4.99	4.9	6.39	19.8	4.19	4.35	2.91
5-9.99	0.8	1.48	7.8	2.21	10	6.61
10-49.99	0.18	0.98	4.9	4.37	29.27	19.74
50-99.99	0.01	0.19	1.4	2.86	114.74	68.28
more than 100	0.02	0.59	16.6	75.60	1086.13	566.07
Total	1917000	654808	2061200	2904480	1.07	4.44

* up to 0.2 in 1994

Source: National Statistical Institute 1994, Agricultural Holdings Census 2003

A good number of large farms were set up as *family* and *partnership* businesses in the beginning of transition by young generation entrepreneurs - former managers (specialists) of public farms, individuals with high business spirit and know-how etc. In addition, some state companies were taken over by the former managers and registered as shareholdings. Joint ventures with non-agrarian and foreign capital started to appear as well. The specific management skills and "social" status, and combination and complementarities of partner's assets (technological knowledge, business and other ties, available resources) let rapid extension of farms through enormous concentration of (management, ownership) of land and other resources, and exploration of economy of scale and size, and modernization of enterprises (Bachev 2000). The specific mode (and pace) of privatization of farmland and other agrarian assets[24] facilitated a fast consolidation of fragmented land ownership and agrarian assets in the large farms. In transitional market and institutional uncertainty and unsettled property rights of major resources, the personal relations and "quasi"/entirely integrated modes were extensively used to overcome transacting difficulties. Private (rather than faceless market) governance of critical transactions, coo-financing, common (joint) ownership, integration of farming into inputs supply, processing, and marketing, all they are

[24] E.g. "ideal" titles on farmland during restitution process, indivisible individual shares in material assets of ancient cooperatives, "managerial" privatization of state farms etc.

typical for these enterprises (Bachev 2006). Furthermore, the large operational size gives enormous possibilities to explore technological opportunities (consolidation of land, economy of scale and scope on machineries, cheap and standardized produce etc.) and achieve a high productivity.

The large business farms are strongly *profit-oriented* organizations. Farmer(s) have great incentives to invest in farm specific (human, material, intangible) capital because they are sole owners of residual rights (benefits) of the farm. Owners are family members or close partners, and internal transaction costs for coordination, decision making, and motivation are not high. Increased number of coalition (partnership) gives additional opportunity for internal division of labor and profiting from specialization - full-time engagement in production management, technological development, marketing, paper works, "public" relations, keeping up with changes in laws and standards etc.

Table 2: Share of different farms in total number of holdings, major resources, and productions in Bulgaria

Indicators	Physical persons	Coope-ratives	Sole traders	Com-panies	Partner-ships
Number of holdings with 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 2003

Greater size and reputation of the farms make them a preferable partner for land, labor and inputs suppliers, and downstream industries. Moreover, big farms can secure best deals since they offer better trade conditions (price, wages, rents, and terms of contracts) then competing small-scale and cooperative farms. Recurrence of transactions with "the same partners" is high which restrict information asymmetry and opportunistic behavior, and let develop mutual trust and other mechanisms for facilitating relationships – planning, adjustment and payment modes, guarantee schemes, dispute resolution devices etc. Besides, large business farms have a giant negotiating power and effective economic, political etc. mechanisms to 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 projects, meet special (collateral, hostage) requirements, bear risk and costs of failures. In addition, they could explore economy of scale and scope on production and management (e.g. "package" arrangement of credits for many projects; interlinking inputs supply with know-how supply, crediting, and marketing). Large farms have strong incentives and potential for innovation – available resources to purchase and adapt new technologies and varieties; possibility to hire

leading experts and arrange direct supply from consulting companies and research institutes. What is more, they are able to invest 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. Further, they have enormous political power to lobby for Government support in their best interests.

The firm mode is generally preferred since it gives extra opportunities to overcome coalition difficulties (e.g. formation joint ventures with outside capital, dispute ownerships right through a court system); and diversify into farm related and independent businesses (trade, agro-tourism, processing etc.); and 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); and overcome existing institutional restrictions (e.g. for direct foreign investments in farmland, engaging in trade with cereals, vine and dairy); and have explicit rights for taking parts in particular types of transactions (export licensing, privatization deals, assistance programs) etc.

In recent years there have appeared some new opportunities to benefit from preferential public programs for modernization of agriculture. Namely these farms have been quite successful in developing good proposals, meeting formal requirements, dealing with complicated paper work, and "arranging" selection of their projects for getting public subsidies[25]; purchasing up-to-date machinery; building modern orchards, vineyards, and processing facilities; improving environmental performance etc.

The large business farms have significant comparative advantages in terms of adaptability to market and institutional changes, effective governance, and high productivity. They will rest highly sustainable in the future when they will have a greater access to EU markets, and further opportunities to benefit from huge public (EU, Government) support programs.

3.3. Evolution of production cooperatives

Production cooperation is another "phenomenon" of the transitional Bulgarian agriculture. More than 3000 *new production cooperatives* emerged during and after liquidation of the ancient "cooperative" structures in 1992-95 (Table 3). The cooperatives have been the biggest farms in terms of land management, and concentrated a major part of cereals, oil and forage crops, orchards and vineyards. Besides, they are a key service provider for their members and rural population. (Table 2).

The cooperative was the *single* effective form for farming organization in the absence of settled rights on main agrarian resources and/or inherited high interdependence of available assets (restituted farmland, acquired individual shares in the actives of old cooperatives, narrow specialization of labor) (Bachev 2000). Moreover, most cooperatives developed along with the small-scale and subsistent farming. Namely, "non-for-profit" character and strong member (rather than market) orientation attracted the membership of many households. In the transitional conditions of undeveloped markets, high inflation, and high unemployment, the production coop was perceived as an effective (cheap, stable) form for supply of highly specific to individual farms inputs and services (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. Coops were initiated by older generation entrepreneurs and a long-term cooperative

[25] Under the SAPARD Measure "Investment in agricultural holdings" 64 % of all funded projects is for agro-firms (Interim Assessment of SAPARD Program in Bulgaria, MAF, 2004).

tradition from the communist period had a role to play. Besides, this mode allows individuals an easy and low costs entree and exit from the coalition, and keeping a full control on a major resource (such as farmland), and "democratic" participation in and control on management ("one member-one vote" principle). In addition, cooperative form gives some important tax advantages such as tax exemption on sale transactions with individual members and on received rent in kind. Also there are legal possibilities for organization of transactions not legitimate for other modes such as credit supply, marketing, and lobbying at nation-wide scale[26].

Table 3: Number and size of production cooperatives in Bulgarian agriculture

Year	Number	Utilized farmland		Members	Average size	
		(100 ha)	Share (%)		(ha)	Members
1992	347	670	1.2	n.a.	193.08	n.a.
1993	1230	7560	13.2	268000	614.88	218
1994	1873	13420	23.4	468000	716.6	250
1995	2623	20980	36.6	678000	800.04	258
1996	3213	21880	38.2	736000	681.05	229
1997	3229	24343	42.5	751000	753.89	232
1998	3269	24270	42.4	765000	742.53	234
1999	3238	22967	40.1	772000	709.29	239
2000	3125	22185	44.4	n.a.	709.9	n.a.
2001	2900	17386	50.6	n.a.	599.5	n.a.
2002	2010	13600	42.9	n.a.	676.6	n.a.
2003	1992	11693	40.2	n.a.	592.6	n.a.

Source: National Statistical Institute

Relatively bigger operational size gives cooperatives a great opportunity for efficient use of labor (teamwork, division and specialization of work), farmland (cultivation in big consolidated plots, effective crop rotation, environment protection), and material assets (exploration of economy of scale and scope on large machinery). In addition, they have superior potential to minimize market uncertainty (dependency) and increase marketing efficiency ("risk pooling", advertisement, storing, integration into processing and marketing); and organize some critical transactions (better access to commercial credit; stronger negotiating positions in input supply and marketing; facilitate land consolidation through lease-in and lease-out deals; introduce technological innovations); and invest in intangible capital (good reputation, own labels, brand names) etc. In situation of "missing markets" in rural areas, the cooperative mode is also the single form for organization of certain transactions - undertaking bakery, 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 beforehand. In addition, coops concentrate on few highly standardized (mass) products (such as wheat, sunflower etc.) with a stable market and high profitability. All that assists financing as advance funding of commissioned by members activities is practices, while production of universal commodities is easier financed by public programs or commercial credit.

Furthermore, the coop applies low costs long-term lease for land supply from its members. Often that is coupled with simultaneous lease-out deals as a specific mode for cashing coops output or facilitating relations between landlords and private farms. Output-

[26] Forbidden for business firms by the Double-taxation and Antimonopoly Laws.

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. They are preferable employer since they offer 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 of the coop members accept 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 coops size, memberships, and production structure. A number of them have moved toward corporative ("new generation") type governance applying profit-making goals, close-membership policy, joint-ventures with other organizations etc.

At the same time, cooperatives have shown certain *disadvantages* as a form for farm organization. A big membership of the coalition makes individual and collective control on management very difficult (costly). That gives a great possibility for mismanagement and/or let using coops in the best interests of managers or private groups around them (on-job consumption, unprofitable for members' deals, corruption). Generally the new cooperative organization did not overcome the incentive problems associated with the team working in the old style cooperatives[27]. Furthermore, there are differences in investment preferences of diverse members (old-younger; working-non-working; large-small shareholders) due to non-tradable character of cooperative shares ("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 no working members favor higher current gains (income, land rent and dividend). Given the fact that most members are small shareholders, and older in age, and non-permanent employees, the incentives for long-term investment for land improvement (P and K fertilizing, irrigation equipment) and for renovation of outdated machinery, orchards, vineyards, have been very low. Finally, many coops fall short in adapting to diversified (service) needs of members, and exacting market demand, and growing competition. For all these reasons, the economic performance and productivity of production cooperatives have not been good[28]. Accordingly, efficiency of cooperatives has diminished considerably in relation to other modes of organization (market, contracts, partnerships, alliances etc.). Since property rights on farmland were definitely restored in 2000 many landlords have pooled out their land from the cooperatives. Consequently, almost 40% of coops have bankrupted or ceased to exist in the last 5 years.

However, most cooperatives will sustain in years to come since they will keep their advantages to a large number of petite landowners, rural labor, small and subsistent farms. Recent public interventions though subsidies and credits for farm and rural investments, and incoming EU direct payments, all they give an opportunity to overcome coops funding problem. Besides, some market protection, environmental, infrastructural, and rural development projects, which require large collective actions (farmers organizations), could be effectively initiated, coordinated, and carried by existing cooperatives or mix (coop-private, coop-public) modes (Bachev 2005a). Adaptability of cooperatives to new challenges would be significantly increased through public training of their staff in business and agro-environmental management, carrying out an effective control on coops activities, and providing assistance in farm and cooperative associations.

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[27] Over employment, equalized remuneration, authoritarian management, adverse feeling towards private farming, system of personal plots etc. have been broadly practicing in many new coops.

[28] Some estimates show that the rate of profitability of cooperatives is 5 times lower than in private farms - namely 4.7% against 26.5% in non cooperative farms (Koteva and Kaneva, 2006).

3.4. Sustainability of subsistence farming

A small-scale and subsistence farming has been another extreme of the transitional Bulgarian agriculture. According to different data *subsistence farms* comprise between 0.64-1.5 million accounting for 94% of all farms and cultivating around 15% of the total agricultural land (National Statistical Institute). More than 97% of livestock holdings are also miniature "unprofessional farms" breading 96% of goats, 86% of sheep, 78% of cattle, and 60% of pigs (MAF 2004). Consequently, a significant portion of the entire output of vegetables, fruits, vine, livestock has been for "own consumption". Less than 39% of censused unregistered farms report they sell products, and in more than 50% of cases those are surpluses not consumed by households (MAF, 2003). Almost 1 million Bulgarians are involved in farming on a part-time base and use it as "supplementary" income source (MAF, 2005).

The post-communist agrarian reform turned most households into owners of farmland, livestock, equipment, etc. *An internal organization* of available family resources in an own farm was an effective way to overcome a great institutional, market, and economic uncertainty and insecurity, and minimize costs of transacting (Bachev 2000). Private rights on farmlands were not entirely restituted for a long period of time making market and contract trade with land very difficult or impossible at all. Besides, there was "oversupply" of farmland and the effective demand was not immense. Many Bulgarians lost their jobs as a result of privatization of the public farms and industrial companies. Starting up an own farm was the most effective (or only) mode for productive use of existing resources ("free" labor, land, technological know-how). Moreover, a large portion of the people was at pre-retired or retired age having no other job alternatives. For others farming was stable "temporary" or second employment in conditions of high insecurity in the job market.

During much of the transition market and contract trade of household's capital (land, labor) was either impossible or very expensive ("missing" markets, high uncertainty and risk, asymmetry of information, big possibility for opportunism in time of hardship). In addition, low payoff of outside trade (high inflation; non-payment or delayed payments of pensions, wages, and rents) was combined with an increased share of households' food costs. Therefore, internal organization turned to be the most effective way to protect and get return on resources, and secure a stable income. A long-term tradition with "personal plots" from the communist period, and insignificant costs for acquiring specialized knowledge (information, training, learning by doing experience) made initiation and development costs for own farm accessible for everybody. In addition, there was a great (price, quantity, quality) uncertainty associated with market supply of basic foods (many new suppliers, no reputation built, poor assortment, insufficient enforcement of quality standards etc.). For lots of consumers an internal organization (own production) has been an effective mode to guarantee cheep, stable, safe, and high quality delivery of food. Internal organization (own farm) is also a preferred and secure mode for providing full or part-time employment for family members (retired, housewives, children). Also for many farming happened to be a favorable full-time or free-time occupation.

Some of the major factors that brought to existence subsistent farming persist – high economic insecurity and unemployment, low income and purchasing power of households, uncertainty associated with market supply of food (freshness, safety, quality, prices) etc. At the same time, most subsistence farms have no intention to extend size and shift to commercial operation because of the other major occupations, and limits of household demands and resources, and advanced age of farmers etc. Besides, transaction costs to enlarge farms through outside supply of additional land, labor, and finance, and marketing would be extremely high (no entrepreneurial capital available). In addition, further extension of farms

will be restricted by the vast costs for studying out and respecting the new institutional restrictions (regulations; quality, veterinary, environmental, animal welfare etc. standards), and establishing "relations" with agrarian bureaucracy (registrations, certifications, paper works etc.). On the other hand, there will be practically impossible and/or politically undesirable for the Government to enforce the official standards in that huge informal sector of the economy. What is more, some subsistence farms will be eligible for CAP direct payments and see their "profitability" increased. Therefore, majority of subsistent farms will be highly sustainable in years to come.

3.5. Development of small-scale commercial farming

Majority of the commercial farms are *"unregistered farms"* with an average size of 1.8 ha and less than a fifth share in total farmland. They are mainly in labor-intensive productions (vegetables, tobacco, vineyards, berries, melons, flowers, mushrooms, medicinal and aromatic crops, livestock, sericulture, bee kipping) and natural meadows. Those are predominately *individual* or *family holdings*, and farm size is exclusively determined by the available household resources – farmland, labor, finance etc. Internal governing costs are insignificant since transactions are between family members (common goals, high confidence, and no cheating behavior dominates) or not existing at all (one-person farm). A small *collective organization* of production is also practiced for some activities (e.g. group pasture of animals, common guarding of yields), which allows a partial exploration of economies of scale or make part-time farming practically possible. The former mode is cost-effective since transactions are not complicated and easily controlled. Besides, group members are usually close friends, neighbors, or relatives, and a mutual trust and self-restriction of opportunism govern relations.

Commercial farmers have strong incentives to adapt to market demand and increase productivity (intensifying work, investing in human and material assets) since they own the whole residuals (income). The extension of farm size through outside supply of labor or services is restricted since directing, monitoring, and disputing costs are extremely high in labor-demanding and spatially dispersed productions. An external financing of farming via debt, equity sell, or preferential public programs have been out of reach because of the high costs for preparing project proposals; and meeting formal paperwork, ownership, coo-financing etc. requirements; and "arranging" funding. Thus possibility for an effective farm enlargement and growth in productivity through mechanization, application of chemicals, innovation has been limited by the small internal investment capacity (savings, profit). In general, primitive technologies and poor environmental and animal welfare standards prevail in small farms.

Own farm enterprise has been a secure mode for providing (full or part-time) employment for family members. Family organization is also an effective form for intergeneration transfer of farm-specific intangible assets (such as know-how, learning by doing experience, reputation). In some intensive areas (e.g. off-season vegetables and fruits) small-scale farming has been quite effective in product quality and price competition bringing a good income for households. What is more, some produces of small commercial farms enjoy increasing (national and international) demand because of the low level of intensification (reduced or no chemical use, extensive breeding of animals), and high quality and good taste of products.

However, small-scale commercial farms have a little ability to meet institutional and market restrictions, to bear the risk, and protect against natural and market hazards. A great number of them face great transacting difficulties in marketing of their output. Most often they are not preferable partners for big buyers because of the small volume and less-

standardized character of output, and impossibility (unaffordable costs) to verify quality of products through laboratory tests, certificates etc. On the other hand, official wholesale markets have been inaccessible for these farms for the reason of great distance; high fees; and requirements for volume, special preparation, certification etc. Besides, farms frequently experience no accomplishment of contract obligations (none or delayed payment), huge market price fluctuation, (quasi) monopoly situation, missing markets etc. In order to protect transacting and avoid unwanted exchanges the primitive forms for risk minimization is commonly used such as investment in more universal but less productive (profitable) assets, diversification of production, informal cash and carry deals, direct retail marketing etc.

With an exception of tobacco producers[29] development of an effective *collective organization* for risk sharing, price negotiation, marketing, and/or lobbying for public support, have been difficult. That has been because of the high transacting costs ("free riding" problem)[30], and diversified interests of individual farmers (old-young farmers; larger or smaller-size farms; specialized-diversified operators etc.), and low reputation and mismanagement of the emerging farmers associations. Majority of small commercial farms are vulnerable and have poor mechanisms to protect from outside institutional, market, and natural disturbances. Most of them have little ability to face severe market competition, and meet institutional restrictions, and bear the risk, and safeguard against natural and market hazard (buy insurance, diversify, or cooperate). All these bring about for a significant income variation for individual farms, (sub) sectors, regions, and different years. Consequently, there has been a constant process of transfer of land management toward bigger farms, and a decrease in the number of small commercial farms (Table 1).

Different fractions of small commercial farms are with *unequal sustainability*. Unlike other forms of organization the life cycle of the one-person (family) farm is greatly determined by the age of the entrepreneur. Besides, incentives for a long-term investment in specialized assets for increasing sustainability are low for older farmers since there is no secondary market for farm-specific assets (e.g. investments in human capital, good reputation, know-how, organizational modernization). Therefore, a good number of small commercial farms will operate at low sustainable level (at present or smaller scale) given the fact that most of the farm managers and labor are old in age[31].

In addition, most *professional livestock farms* are highly unsustainable because of their low productivity and non-conformity with the EU hygiene, quality, animal welfare, and environmental standards. Some of them (mostly cattle, sheep and goat farms) will increase their present size with additional specialized investments in modern technologies and environmental protection. That would enhance their ability to compete, and meet strict institutional requirements, and participate in various public support programs. These farms will continue to rely on family labor for carrying out all critical and highly specific transactions (care for animals, supply of forage etc.). Increased scale of operations will also require some stable forms for governing of marketing such as cooperation or tight contracts with dairy and meat processing industries.

A process of consolidation and modernization will be taking place in some of *horticultural farms* as well. In years to come market, contract, and institutional uncertainty will be steadily diminishing while access to public support programs augmenting with

[29] Tobacco producers have a significant political representation and enjoy essential public support - price guarantee, subsidies on products, quality etc.

[30] That is a special ("third") form of opportunism which occurs in development of larger organizations. Here individual benefits are often not proportional to individual efforts. That is why everybody tends to expect others to invest costs for organizational development while benefiting ("free riding") from the new organization (Olson 1965).

[31] Farm managers older than 45 and 65 are 85% and 40% accordingly (MAF 2004).

application of the CAP. That will further increase sustainability of smaller-scale intensive family operators. In some cases, small partnership or group farming modes will be also used to achieve a rapid *capital and labor concentration.*

Tobacco farms are concentrated in mountainous and less-developed regions with little farmland and no alternative job opportunities. They will continue to enjoy a high public support (political power, preferential regional support policies), which will keep their high sustainability and bring no significant changes in modes of organization (specialized small-scale family operation).

The increasing competition will be inevitably connected with further decrease in the number of small commercial farms - boost in joint ventures, failures, or non-market orientation. Furthermore, there will be a parallel tendency toward specialization into productions for "niche markets" and products with special quality (specific origins, organic products, eggs from freely-breed chicken, meat with low fat level, grape for special wines etc.). All they will increase competitiveness of a good part of the adaptive small enterprises. Besides, that would require enhanced contract and/or complete vertical integration ("integrated" management) with processing industries, food chains, and exporting companies. Finally, some EU support measures (market support, agro-environmental programs etc.) require a farming organization which would increase incentives for association among small-scale producers. The cooperation among the competing small farms will be further fostered by the potential to meet new market and institutional requirements, decrease market uncertainty and unilateral dependency (monopoly in upstream or downstream industries), and save costs for common organization of certain transactions (e.g. innovation, product and technology certification, price negotiation, inputs supply, processing, marketing of output etc.)

4. Modes of Governance of Commercial Farms

4.1. Governing of land supply

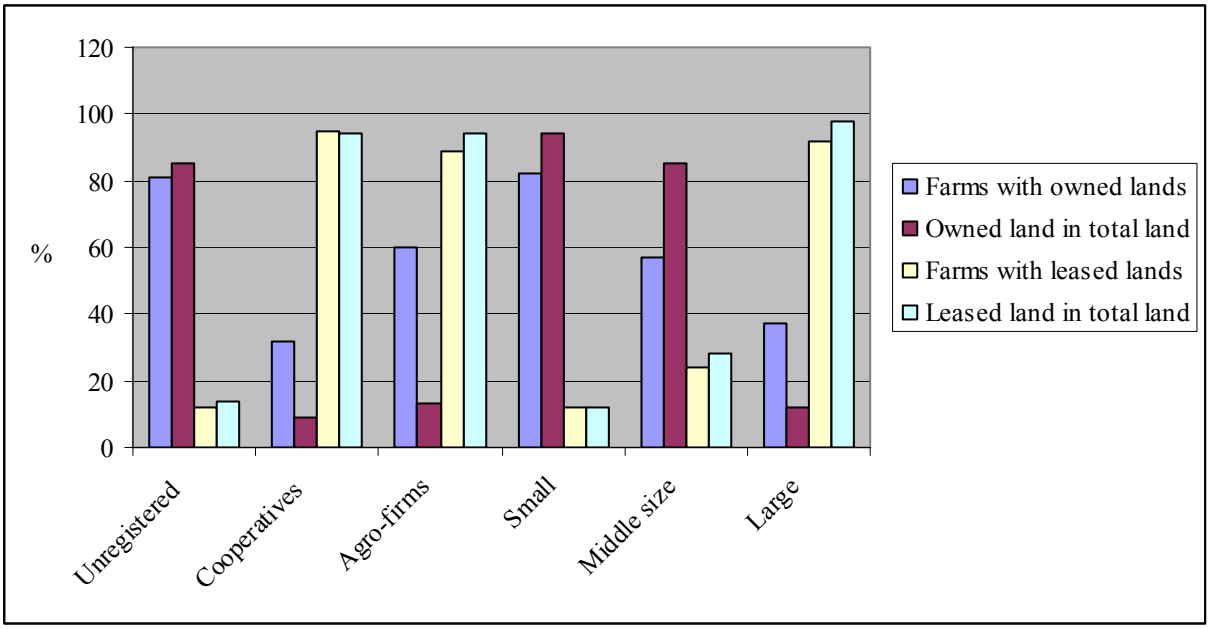
There is a significant distinction in forms for land supply in different type farms (Figure 1). *The ownership* is a major governing mode for most unregistered and smaller-size farms while *leasing* is a dominant form in large agro-firms and cooperatives. There is a tendency with enlargement of the farm size to increase the portion of leased land. Hence, the lease-in contract has been the main form for the extension of cultivated land in Bulgarian farms.

Our survey also demonstrates that a main form for acquisition of land property in all types of farms is *"ownership restoration, inheritance, or getting as a present"*. Only a forth of surveyed farms has acquired ownership on agricultural land through *"purchase"* with a significant share of the larger farms participated in such transactions.

The acquisition of ownership rights (purchase of land) is an *alternative* form of land supply to lease-in transactions (the later purchase only the "cultivation rights"). The former mode is associated with significant capital investments (for paying land price, preparation of papers and formal registration of deals), and efforts (for finding good land plots, checking out and securing purchase provisions etc). Besides, it allows a low flexibility in optimization of farm size through reallocation of land plots and/or quick emergency sell. Despite that, it is often a preferable mode since it gives a reliable protection of long-term investments in land against possible opportunism of outside landlord (e.g. termination of lease contract before the end of the effective life-span of invested specific capital). Our survey proves that land supply trough procurement of ownership governs transactions only if there is condition of high mutual (or unilateral) dependency of assets with adjoint land plots. All farms applying that mode indicate using purchased land for buildings, orchard and vineyard, irrigation or other long-term amelioration of land. When there is no assets dependency and/or cite-specificity of

investments to a land plot is insignificant, then either short lease or middle-term lease-in contracts are the most effective forms for extension of farm operations (less capital intensive or one season crop productions).

Figure 1: Governing of land supply in Bulgarian farms



Source: personal interviews with farm managers

For all farms the *lease-in contact* has been a dominant form for farm extension through integration of new land plots. One of the reasons for preferences to this mode for organization of transactions is the unsettled property rights on farmland (lack of notary certificates, uncompleted land division process, disputed rights between claimants or heirs etc.). Another principal factor for importance of this form for land supply is its comparative efficiency for the individual farm: *firstly,* land lease requires less direct investment in comparison with a land purchase. The economies on capital investments has been a crucial factor for preferences to the lease mode in the transitional conditions of significant lack of own funding, and extremely high costs for credit financing, and absence of public programs for land procurement[32]. *Secondly,* this form allows a greater flexibility for rapid optimization of farms size along with current market and technological changes (e.g. quick inclusion or exclusion from operation of needed land plots). *Third,* it permits inexpensive verification ("production test") of the real values of a particular land for the certain farm. Thus it restricts the risk in case of bad deals (e.g. unsuitable partners or land plots) to the contracted period. *Forth,* in some instances (e.g. mono culture) that is the best form for annual (or seasonal) supply of divers new land plots to any alternative modes (such as purchase, exchange, group farming, and crop rotation). *Finally,* until recently the lease contract was one on the two legitimate ways to acquire rights on farming the land by foreigners (second to the joint venture with a local citizen).

[32] While short-term (and most recently) long-term public credits are becoming available through various support programs (SFA, SAPARD), for participating in public projects there is an explicit requirement "to possess the necessary farmland".

The continuous land supply through a lease mode increases the relative costs of transactions. That is determined by the high recurrence of deals for supply of a particular amount of land (needs for constant renegotiations for the same plots after end of leased period), and costs for resolution of possible conflicts with land owners etc. However, these expenses are negligible comparing to the additional benefits of that governing form. Here market for short lease (competition) and long-lasting relationships between counterparts regulate satisfactorily transactions. Besides, standard lease contracts are usually offered by a farm to numerous land owners which minimize contracting costs. However, when a significant farm-specific long-term investment in land are to be made (such as long-term improvement, permanent tree, building etc.), then a special form is designed to safeguard land supply from possible opportunism of partner - e.g. use of long-lease contract, acquisition of ownership, joint venture with landlord etc. Furthermore, one-third of lease-in contracts are with relatives and familiar farmers and mainly personal (rather than anonymous market) relationships govern transacting. The later form, based on personal ties, is preferred since: it permits an efficient information exchange (in respect to demand and supply, partner's reliability), cooperation in contracting and dispute resolution, and low cost control (self-control) in respecting contractual terms. Besides, leasing business and cooperative farms is often provider of job and services for landlords. These interlinks additionally diminishes any opportunistic behavior in land deals.

A majority of surveyed farms give preferences to *"share rent" contract*, and that portion is higher for unregistered and cooperative farms, and small and middle-size farms. That means that a risk from market prices and/or yields fluctuations is split between the farm entrepreneur and landlord. *"Fix-rent"* is the most desirable for 30% of the farms, as firms and large farms favor more that risk-taking arrangement. Besides, large farms and cooperatives tend to sign written contracts while other farms apply oral (informal) lease.

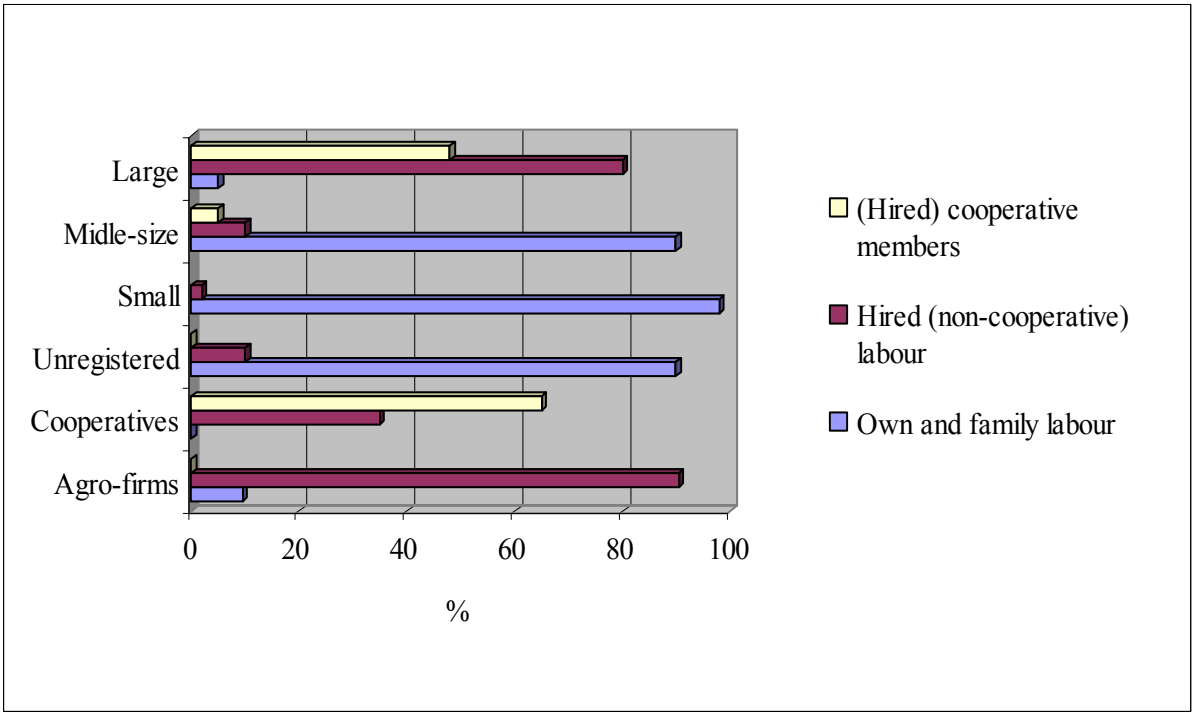
The most common reasons for *size reduction* (through land sells-off or lease-out) in surveyed farms are: "lack of gain from land cultivation", "accumulation of funds for financing other activities", "impossibility to manage all owned land", and "ceasing some activities". That proves that a main factor for the reduction of scale of land supply is the high level of transaction costs for organization of farmland within the farm borders. The management of outside deals (sell-off or lease-out contracts) is much more economical than internal integration through hiring of new workers, providing necessary finance, and organizing new activities on available lands. Farms restricting the internal land supply either minimize the farm size or extend the farm through organization of land-saving transactions (e.g. intensive crops, livestock operations, agricultural services etc.).

Land deals are not only a means for changing the farm size but also a way for *rationalization of land organization*. Our survey indicates that more than 40% of leasing-out farms simultaneously take part in lease-in transactions. Every tenth of leasing-in farms also lease-out land. Not small portion of farms applying other forms for land supply (such as purchase, sell, lease out, lease in) at the same time practice "compensating" opposite deals (sell, purchase, lease-in, lease-out). Thus in a situation of a significant portioning (scattering) of land ownership in the country the trade with rights on agricultural land has been a major way for consolidation of land plots.

4.2. Governing of labor supply

Different type of farms employ unlike modes for labor supply. Large cooperative and business farms use most of the *hired labor* while small and unregistered farms rely predominately on *own* and *family labor* (Figure 2).

Figure 2: Modes for labor supply in Bulgarian farms



Source: personal interviews with farm managers

Family labor has significant advantages comparing both with outside labor supply (service supply contract), and internal organization of hired labor (market based employment contract). Family members are unified by common business and family interests. That creates strong incentives for cooperation in decision making, reviling information, conflict resolution, and self-controlling the opportunistic behavior. That is why the effective limits for extension of small and unregistered farms through labor supply are mostly determined by the possibility to carry out "critical operations" by own or family labor.

An employment of the cooperative members is a major form for labor supply for cooperatives and that is because of the existence of most of them is to provide employment for their members. The cooperative labor contains additional incentives for intra-farm realization since it participates in (share) ownership, and in the management, and in the final distribution of coops assets. That mode of labor coalition is especially effective when the number of members of the cooperative (group farm) is not very big, and most of them are working-owners in the coalition, and there are effective mechanisms for linking individual contribution to final results of the team work.

Hiring (employment) contracts is a major mode for labor supply in large agri-firms and cooperatives. Internal labor contract is an *alternative* form for farm extension to outside (market) contract for service supply. That mode possesses a number of transacting advantages such as: economy of costs for multiple negotiations and detailed specification of obligations; protecting transactions from possible opportunism in critical (labor demanding) moments; opportunity for effective investment in farm specific human capital etc. That mode for farm enlargement is often preferred because of the undeveloped (missing or unstable) market for agrarian services, or the high potential for profiting on internally organized specific human capital (e.g. investing in learning by doing experience, training etc.).

A dominant part of surveyed farms uses labor *in production*. The portion of farms which employ labor for *coordination* and *controlling* of various (internal and external) t*ransactions* of the farm is significant: accordingly 71% in administration and 63% in

management. The share of cooperatives and agro-firms, and middle-size and large farms which use their labor in that way is particularly high. Besides, in firms and large farms the portion of workforce in management and administration is slightly above 4% while for other farms it is much higher. That demonstrates that governance efficiency in large farms and agro-firms (measured through direct relative costs for management and administration) is comparatively higher than in unregistered and cooperative farms. A significant part of farms utilizes labor for *security* (protection from internal and outside stealing, and expropriation of property): 25% of the unregistered and small farms, 71% of the cooperatives and 94% of the firms.

In many instances, the outside employment of labor comes to be an *alternative* for outside supply of agrarian inputs – e.g. buying instead of producing feed for animals, buying machinery and "replacing labor" etc. Reason for selecting that form for transacting is to be sleeked again in the lower relative costs. In some cases, that is either "impossibility" to find a reliable supplier, or the high risk from strong dependency of farm from outside providers (e.g. forage supply for animals), or the necessity for finding an "expensive" credit for market procurement of inputs etc. In other instances, grounds for choosing the internal mode is the availability of required non-human assets (e.g. land, machinery) for intra-farm organization of transactions or existence of strong interdependence (specificity) of different farm assets which require an integration.

Finally, the outside labor supply is an *alternative* for a lease-out contract of available (owned, rented etc.) land[33]. In this case the farm size is reduced through (partial or full) transfer of land management to another farm entrepreneur.

A permanent employment is a main form for labor organization in all type of farms – around 80% of unregistered farms, and almost all cooperatives and firms apply that mode of labor supply. Permanent (labor) contract with a particular farm assumes a high frequency of transactions between a farm entrepreneur and a worker. It allows realization of considerable economies on governing of labor supply. Instead of constant negotiation each activity (service supply contract, "daily" hiring etc), the manager and worker sign a permanent labor contract. In that way costs for permanent (re)negotiations, finding "good" workers, and testing labor's skills and reliability, are saved. Besides, a high recurrence of transacting between same parties (permanent contact) let developing "good" relationships between partners ("getting to know each other", mutual efforts to avoid or overcome conflicts etc.), and creates incentives to invest in farm specific human capital (getting knowledge about specific quality of different land plots, learning technology for specific products on farm, intimate acquaintance with animals etc.). The permanent employment also allows avoiding the risk of uncertainty in labor market (e.g. shortage of highly qualified labor) which is significant in farming in some activities and (pick) periods of time. Permanent labor accounts for more than a half in the average annual workforce in surveyed farms, and it is typical in small, unregistered and cooperative farms.

Almost tree-forth of farms apply *seasonal* supply of labor. That is a caused by the "seasonal" character of (some) activities in farming. Here needed labor for extension of farms in such periods is secured by a temporary (short-term) contract. That mode allows flexibility in accordance with the internal necessities of the farm enlargement, and saves the costs for a permanent contract. Bigger farms, cooperatives and firms use to a greater extend that mode for labor organization.

[33] Namely that relationship between labor supply and land supply, and incentives, costs minimizing, and risk bearing futures of these "alternative forms of land tenure" has been traditionally examined by the agrarian economy.

For governing relations with different kind of hired labor diverse type of contracts are usually used. *A written contract* is the major form for hiring permanent labor in all cooperative and firms. Unwritten agreement for employing is practiced by unregistered and smaller farms. The written form gives a greater transparency and security of employment relations as well as an opportunity to use a third party for resolution of possible conflicts between parties (e.g. court, local authority etc.). However, a formal permanent employment contract is associated with additional costs for: preparation, juridical consultations, writing down the terms, (in some cases) notary registration, compulsory payments (off-limit works, leaves of absence, social security etc.), and termination (redundancy compensations). That is why it is not preferred mode by smaller farms.

The personality of laborer is of particular importance in hiring contracts. Most hired labor for permanent work are "relatives or close friends". For seasonal labor there are also preferences to "person who is known prior to hiring" and "renovation of contracts with the same person every time". In close rural communities "everybody knows everybody" and built reputation ("good" or "bad" employers, workers) is a principal factor for minimizing labor supply costs.

An analysis of the dominant forms of labor *compensation for hired workers* in different farms shows that they depend on the character of activity. When individual contribution of hired labor is difficult to measure then *time-based* (monthly or daily) compensation is used (e.g. for employees in management, administration, security). In these cases, additional mechanisms for controlling reliability of work are also applied (e.g. direct monitoring and control, employment of division managers etc.). For permanent workers various forms for connecting labor compensation with final (annual, overall) productivity is commonly applied. The later mode increases incentives for amelioration of the overall efficiency of organization (through mutual control and self-control) turning hired labor in a co-owner of the final output (and a bearer of the entrepreneurial risk).

When labor productivity is relatively easy to measure (standardized and routine activities) and there is a strong link with individual efforts then an *output based* compensation of labor is typically applied (e.g. livestock and services). The hiring of labor under such payment mode contains strong incentives for increasing efficiency and self-restricting opportunism. In fact it is very close to a service supply contract.

4.3. Governing of service supply

The share of farms using an *"own supply"* of major agrarian services is significant (Table 4). Larger operators benefit from *integration* of services through an exploration of size and scale economies on specialized and/or specific investments. What is more, very often an outside (market) supply of farm services is "too expensive" because of the undeveloped markets of specialized services (high market prices, monopoly supply, missing markets), and a high risk from dependency from an external supply of "critical" (in terms of time of delivery, quantity, and quality) activities.

When a technological economy of scale and scope from investment in specialized assets is impossible to be explored within a farm boundaries, then a *special (private) organization* for supply is used (e.g. cooperation, group supply etc.). Many needy small-scale farms can not develop or participate in such organization (unaffordable development or maintenance costs) and these transactions either fail to occur or they are not carried in an effective scale. All that has significant negative implications for many smaller-scale farms in terms of complying with modern labor, quality, technological, environmental, and animal welfare standards. Principally, overuse of manual labor and low labor (safety, intensity etc.) standards, employment of animal

power and primitive technologies, insufficient compensation of intakes of chemicals, shortage of disease and pest protection, low yields etc., all they are common.

Our study demonstrates that a significant part of surveyed farms still *use no major services* at all. More than 40% of unregistered farms, two-third of agro-firms, and one-quarter of cooperatives report they do not apply services for supply of "technological knowledge and advice". More than a third of unregistered farms, one-fifth of agro-firms, and some portion of coops do not use "mechanization services". A half of unregistered farms and majority of the small farms do not employ services for "maintenance of machinery and equipment". Almost a third of unregistered and small crop farms do not use service for "spreading chemicals and pesticides". "Veterinary services" are not employed by one-third of unregistered livestock farms and more than one-fifth of livestock firms. "Lack of outside supplier", "high price for outside procurement", "problems with contracting outside service supply", and "quality problems of outside supply", all they are indicated as main reasons for not applying these services. The modest intensification of Bulgarian farms has some *positive effect* as well. Small horticulture farmers enjoy a high demand of their output because of the consumers' perception for (semi) "organic" character of products, and usage of traditional technologies and varieties etc.

Table 4: Governing of service supply in Bulgarian farms (percent of farms)

Service type	Modes	Unregi-stered	Coopera-tives	Agro-firms	Small	Middle size	Large
Technological knowledge and advises	Own supply	24	49	65	15	28	90
	Own cooperative	5	7	15	15	20	0
	Market supplier	13	10	25	35	33	45
Mechanization services	Own supply	18	85	60	5	75	100
	Own cooperative	22	0	18	50	37	0
	Market supplier	15	15	28	35	28	9
Maintenance of machinery and equipment	Own supply	80	90	100	90	100	100
	Own cooperative	0	0	0	0	0	0
	Market supplier	20	10	0	15	10	0
Spreading chemicals and pesticides	Own supply	40	65	60	45	85	100
	Own cooperative	15	7	12	25	0	0
	Market supplier	12	25	28	22	25	0
Veterinary services	Own supply	20	60	40	0	0	60
	Own cooperative	5	0	0	0	0	0
	Market supplier	40	40	60	25	85	40

Source: personal interviews with farm managers

The amount of *market supply* of agrarian services is not significant and varies according to type of farms and kind of services. Outside service supply (purchase of service) is an *alternative* form for the internal organization of labor ("own production of services"). That mode of farm extension is usually used for standardized and less specific to a farm operations (plugging, spreading of chemicals etc.). Here contracting and controlling (output assessment) of service supply do not require high costs, and maximum scale and scope economies are realized through specialized service market. Most farms report that the frequency of using the same supplier is high which minimize the costs of their relations (building reputation, confidence, system for coordination and stimulation, self-restriction of opportunism, standardization of transactions etc.) and intensifies bilateral transactions. Alternatively, hiring and internal utilization of labor would involve additional costs for: organization and

monitoring of workforce, "training" of labor, social payments (insurance, redundancy), and compensation in non-working holidays, rainy days, and out of season periods. Besides, inter-farm organization would be associated with a necessity to supply (through purchase or lease) of specialized machinery and other material assets for carrying out such services.

4.4. Governing of inputs supply

An internal supply ("on farm making") is practiced by a good number of farms for essential inputs such as seeds and seedlings in crop farms, and forage for animals and breeding of animals in livestock farms (Table 5). The internal organization of inputs supply is an *alternative* mode to outside procurement (through purchase or leasing) of assets, and/or outside service supply. Any restriction of a market supply of farm specific assets is a result of the high transaction costs associated with uncertainty and risk of price dynamics and/or availability of inputs in a needed time; difficulties in quality verification of seeds and forage; monopoly or another dependency from a supplier etc. Besides, a part of the machinery (tractors, combines etc.) and productive animals are either highly specific to a farm (strong mutual dependency with other farm assets) or especially needed in particular "critical" periods (harvest, milking etc.). *A collective organization* for inputs supply is also used in order to protect dependent transactions and achieve possible economy of scale and scope.

Market *procurement* is predominately applied for standardized inputs such as chemicals, machineries, and livestock. Those are mass products, with a secure supply, and an occasional purchase. There are multiple (alternative) suppliers and market competition works well to govern supply effectively. Besides, a high frequency of deals with the same suppliers is common which reduce transacting costs and restrict opportunisms.

For a good part of surveyed farms a major factor for choosing a particular inputs supplier (with an exception for animals) is *"delayed (portion) payments"*. That mode effectively *interlinks* inputs supply with a credit supply to a farmer. Short and long-term investments in agriculture usually require a longer pay-back period (at least until the next harvest season). Therefore, a delayed or fraction payment for outside input supply actually represents a parallel lending of a free or low interest (short or long-term) credit by a supplier. Such interlinked organization ("input supply plus crediting") facilitates transactions, minimize the overall costs for their management, and intensify inputs supply and relationships between counterparts. A supply of material assets "in package" with crediting ("loan in kind") is beneficial for farms since: it either saves own finance of significant capital investments; or economize costs for finding and servicing an outside loan (from a commercial bank or another private agent). In a situation of vast shortage of own sources and a high costs for external credit supply, that is often the only available form for the enlargement (or preservation) of farm size. Not rare such an interlinked supply of long-term assets in fact represents leasing (rent) rather than a sell of actives. That specific form for governing of transactions with inputs supply industries corresponds to development of a particular lease market for more universal and easy to supervise assets (such as large machinery, building etc.)[34].

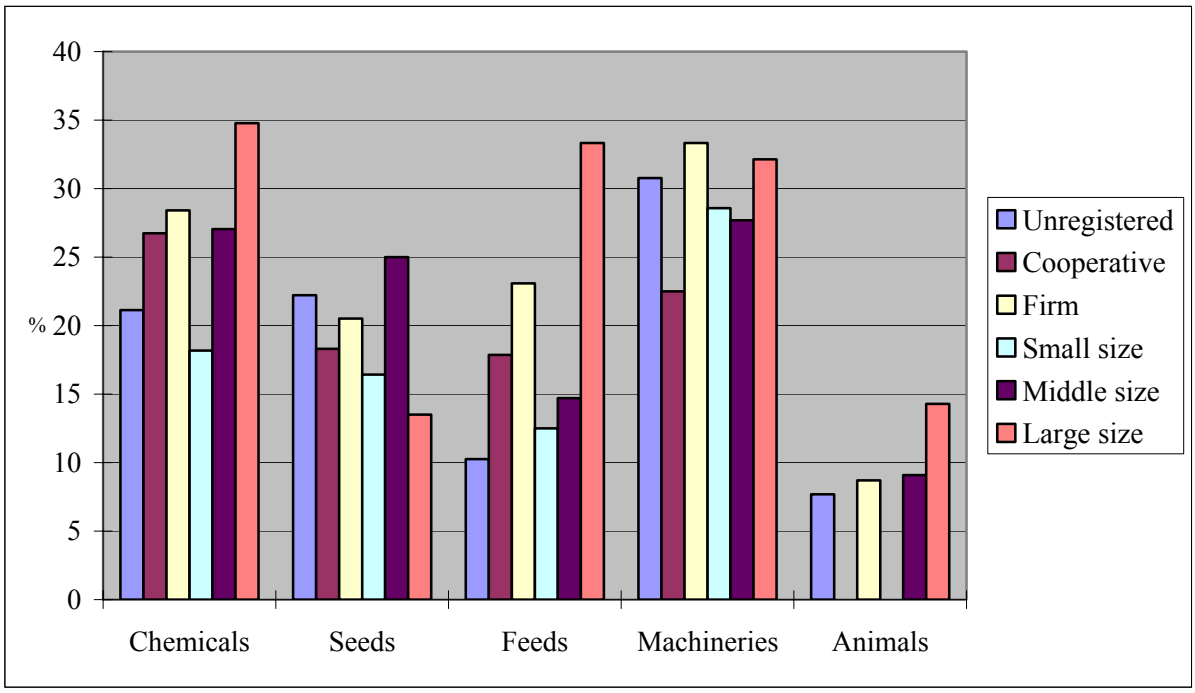
[34] At the same time, similar lease market does not emerge for productive animals since lease contract is difficult to monitor (livestock could be easily consumed or resold). Therefore, purchase is the major form for outside supply of livestock.

Table 5: Governing of inputs supply in Bulgarian farms (percent of farms)

Inputs type	Supplier	Unregi-stered	Coope-ratives	Agro-firms	Small	Middle size	Large
Chemicals	Own production	17	0	0	17	0	0
	Own cooperative	10	5	15	10	35	0
	Market supplier	55	95	90	68	90	95
	Buyer of farm output	24	13	33	15	25	15
Seeds and seedlings (crop farms)	Own production	47	53	33	50	57	25
	Own cooperative	3	15	23	3	28	0
	Market supplier	50	32	45	68	59	45
	Buyer of farm output	4	41	44	4	45	28
Forage (livestock farms)	Own production	55	65	50	75	60	72
	Own cooperative	0	0	35	0	30	0
	Market supplier	45	35	15	25	28	12
	Buyer of farm output	9	6	53	9	35	30
Machinery	Own production	12	13	0	12	5	5
	Own cooperative	20	17	46	12	15	28
	Market supplier	68	70	54	90	85	90
	Buyer of farm output	15	0	19	15	14	15
Livestock	Own production	37	50	28	55	35	24
	Own cooperative	21	31	33	35	58	0
	Market supplier	42	19	39	45	45	50
	Buyer of farm output	40	17	13	12	35	28

Source: personal interviews with farm managers

Figure 3: Share of farms selecting suppliers for "delayed payment" reason



Source: personal interviews with farm managers

"Receiving additional benefit(s)" is another important factor for selecting a particular supplier for some of the new chemicals and machineries. Suppliers usually provides "free" non-material assets or services like training, know-how, technical advise, maintenance etc. Since the appropriability of these transaction is low (non material character), the "package deal" with the main material input is the only effective modes for effective organization.

For a considerable number of farms *"inputs supplier buys farm output"*. That interlinked organization of inputs supply with marketing of farm output ("reciprocial supply") minimizes overall governance costs for two groups of transacting (a single contract for input supply and marketing). In many cases, this mode extends vertical coordination (quasi integration) of farms with the supplier of a particular input (e.g. super elite seeds). In other instances, there is a mutual (e.g. capacity) inter-dependency and a buyer of farm produce (e.g. milk or meat processor, dealer) organizes supply of a critical input (e.g. forage for livestock) in order to secure the origin, high quality, quantity, and time of delivery of the raw material.

4.5. Governing of finance supply

A major form for funding the activities of Bulgarian farms is *"own sources"* (Table 6). In transitional conditions of high institutional, market, and behavioral uncertainty most of the traditional agrarian investments happen to be in a regime of high specificity ("berried in land"). Besides, much of the human and intangible capital is highly specific to a particular farm (e.g. investment in training, learning by doing experience, organizational development, building reputation etc.). Therefore, finding out an independent (market) investor to finance such assets has been quite expensive (costs to find a supplier, efforts to negotiate loan terms, losses associated with meeting collateral requirements, premium interest rate or other "side payments") or even impossible[35]. Consequently, the internal rather than outside mode has been the most effective (or only possible) way to finance transactions supported by such assets (Bachev 2000).

Table 6: Governing of finance supply in Bulgarian farms (percent of farms)

Supplier	Type of funding	Unregi-stered	Coopera-tives	Agro-firms	Small	Middle size	Large
Own financing	Short-term	91	81	79	91	81	75
	Long-term	49	48	55	62	40	62
Relatives and	Short-term	31	7	10	23	14	12
friends	Long-term	20	0	23	6	19	0
Inputs supplier	Short-term	22	27	28	25	25	35
	Long-term	31	23	34	28	28	33
Outside investor	Short-term	0	11	13	0	3	20
	Long-term	0	0	17	0	3	25
Farm organization	Short-term	13	16	7	29	19	9
	Long-term	14	4	14	11	14	0
Commercial bank	Short-term	6	18	38	3	31	25
	Long-term	3	11	23	0	19	0
Public program	Short-term	11	56	62	20	52	75
	Long-term	7	19	22	7	21	25

Source: personal interviews with farm managers

[35] That proves Williamson suggestion that when specificity of investment increases, then the internal and outside financing are not alternative modes ("perfect substitute"), and equity or internal supply is the only possible way to finance such assets (Williamson, 1996).

Besides, investment in internal farm-specific assets (such as entrepreneurship, know-how etc.) has been much more productive since it brings higher than market[36] return on invested specialized capital. That is why large farms and firms (which tend to perform much more effectively) invest to a greater extend their capital in own long-term assets for increasing productivity. Finally, production for household consumption in individual (family) farms and a good part cooperatives activities are also effectively funded by own resources (household savings, advance payments of members for cooperative services etc.). However, internal sources for funding are limited by family savings, coop members specific demands, (internal) profit generation capacity etc. That puts a severe restriction on effective farm enlargement through an internal finance supply.

Using of *"relatives and friends"* as external suppliers of capital was very popular during first years of transition. When uncertainty was so high that personal ties (trust) governed most economic transactions at national and even at transnational scales (Bachev and Tsuji, 2001). This mode for outside supply is still dominant for a good part of small and unregistered farms. Here costs for negotiating, enforcement, and disputing are low since transactions are governed by "good-will" and personal trust between partners (usually as a part of a broader friendships or family relationships). In certain cases, such outside "support" of activities of smaller farms is a part of interlinked "direct marketing" deals. That allows creditors to avoid uncertainty associated with price fluctuation, inconsistent supply, and quality, safety and origin of produce.

Share of farms which get a financial supply from an *outside investor* is still low. Evolution of a special private mode for external funding of farming is determined by strong relation specificity of farm investments to outside counterpart. That is either bilateral (capacity, time of delivery) or most often unilateral dependency of farm assets from a particular buyer (processor, retailer, and exporter). For the reason of high specificity of investments to a particular (single) buyer they hardly could be financed by an independent supplier (high risk from opportunism in post-investment stage). Farms also would not make dependent investments unless they are safeguarded by an effective governing form (e.g. a long-term contract, taking economic "hostages", and join investment). Therefore, either underinvestment in specialized capital (hold-up) or direct external (coo) investment by an interested vertical partner. A range of *special contract modes* have been effectively employed to mitigate funding difficulties (e.g. shortage of working capital) or facilitate mutual dependent relations with buyers and suppliers: delayed payments for inputs supply (zero interest "loan in kind"), interlinking credit with inputs supply and marketing, leasing or accepting outside investment (hostage taking, joint ownership) of long-term assets etc. In some cases, farms have been initiated (or taken over) from outside (off-farm) interests and developed as a part of diversification strategy of special business groups.

A collective organization for outside finance supply (national or regional professional or crediting organization) is used by an insignificant number of farms. The cooperative form is more important for short-term financial needs of smaller farms. Despite its obvious advantages (rapid resource accumulation, risk sharing, non-for-profit operation, crediting preferences, "democratic" management) evolution of a collective mode for finance supply has been very difficult. That has been because of the "free riding" problem, inefficiency of

[36] E.g. rates of interest on bank deposits return of shares at actions market, or pay-back on Government bonds etc.

the cooperative form, revealed mismanagement, existing institutional restrictions, and low investment capacity of the potential members[37].

Market (credit, debt) finance *procurement* has been effectively developing after 2000 but it is still not accessible for the majority of farms. Larger farms and firms employ to a greater extent loan contracts. That is because they can better meet market criteria for efficiency and formal (interest, collateral) requirements, and have a superior ability to face significant costs for finding a creditor and completing credit agreements. Share financing of investment project with bank loan and debtor's co-funding is commonly used. Own sources are usually used for funding of more farm-specific assets (e.g. land and land improvement) while credit resources are directed to finance more universal (liquid) assets and activities. In the later case machineries and/or "future yield" are used effectively as guarantee which facilitates crediting transactions.

A main form for external short-term funding in larger cooperative and business farms is *"some kind of public program"*. Agrarian credit market was blocked until recently and a Government intervention in financing of working capital in some productions (mainly cereals) made activities possible. Major beneficiaries of the preferential long-term programs are also larger business enterprises. They have better experience and capacity to prepare good project proposals, and meet formal requirements, and deal with complicated paper work, and develop relation-specific capital with funding agencies (personal ties, good reputation), and "arrange" selection of projects (lobbying, interlinking, "under the counter" payments) etc.

Since the beginning of transition now there have been a number of EU, international assistance, NGO`s etc. initiatives targeting modernization of farming and rural areas (e.g. SAPARD); less developed regions; minority groups; young farmers etc. All these forms for international intervention has come to "fill a gap" when internal third party (Government) involvement in farm finance supply either failed (capacity and competence deficiency, lack of budget recourses) or has not been quite efficient (bad planning, mismanagement, corruption).

Generally, the high transacting costs restrict (or block) the market and private funding of majority of farms, and an effective public involvement in finance supply has not been put in place. Accordingly, chronicle underinvestment, and limits of farm enlargement and productivity; and rising disparity in income, technological level, and competitiveness, and unsustainable exploitation of natural resources, all they are typical among farms.

4.6. Governing of insurance supply

During much of the transition Bulgarian farms had no access to specialized insurance products since they were either unavailable or too expensive (Bachev 2000). *Agrarian insurance market* has been developing in last several years but it is not widely used by farms (Table 7). The only exception is insuring against *"bad meteorological conditions"* (hail, frost etc.), and *"fires and natural disaster"* which are practiced by a great number of large cooperative and business farms. These insurance products are also regularly purchased by a portion of larger fruits and grape farms.

The larger farms have stronger incentives to *sell the risk* because they are highly specialized huge operators, and in the case of an event damages are significant. Besides, they have bigger financial means to insure crops and related assets. In some cases, they are in

[37] A number of farm credit organizations have been initiated by private interest groups (consortiums of banks, inputs suppliers, breading and innovation centers etc.) or by a third party (Government, international assistance program, NGO). Consequently, they have got a significant back up by the external public or private funding.

position to negotiate more favorable terms than bulk of the farms (big contracting power, economy of scale, available on farm experts etc.).

Moreover, "purchase of insurance" is usually *explicitly requests by the crediting banks* (for commercial or public crediting programs). The main users of short-term (bank, Government) credits are big cereals farms. Similarly, for long-term credits are mostly taken by larger grain, fruits and grape producers. Since the risk of crop failure is immense the lending banks require their collateral (future yields, milking-cows) to be protected ("insured") from possible losses. Despite certain unwillingness to do so, farmers have to pay the supplementary price for insurance supply in order to obtain needed ("interlinked") bank credit. In this case risk is carried by a specialized market supplier (insurance company rather than bank) and debtor-farms are charged with extra (transaction) costs to assure a bank loans.

Table 7: Governing of insurance supply in Bulgarian farms (percent of farms)

Objects	Type of insurance	Unregi-stered	Coopera-tives	Agro-firms	Small	Middle size	Large
Grain	Burglary	6	14	0	6	5	13
	Bad meteorological conditions	19	61	72	28	55	81
	Diseases and pests	6	21	19	3	30	0
	Fires and natural disasters	31	71	88	38	75	81
Vegetables	Burglary	0	0	6	0	5	0
	Bad meteorological conditions	6	0	13	6	0	25
	Diseases and pests	3	0	0	3	0	0
	Fires and natural disasters	3	7	0	3	5	0
Fruits and grape	Burglary	19	0	22	19	16	0
	Bad meteorological conditions	3	32	22	3	27	25
	Diseases and pests	16	18	3	19	11	0
	Fires and natural disasters	3	25	22	3	23	25
Meat animals	Burglary	9	36	30	8	28	67
	Bad meteorological conditions	0	7	5	0	8	0
	Diseases and pests	0	14	15	4	8	33
	Fires and natural disasters	0	29	0	0	16	0
Milk animals	Burglary	0	21	50	0	36	67
	Bad meteorological conditions	9	7	0	8	4	0
	Diseases and pests	9	29	15	12	16	33
	Fires and natural disasters	0	43	0	0	24	0
Others	Burglary	0	7	0	0	5	0
	Diseases and pests	3	0	0	3	0	0
	Fires and natural disasters	8	14	0	11	7	0

Source: personal interviews with farm managers

The rest of the farms use *other forms* to insure their products and assets such as: diversification of production, geographical remoteness of individual plots, hiring full-time specialists (e.g. pest control expert, agronomist), using private security guards etc. In Bulgaria there is not an effective public system (police, municipal guards, court etc.) for protection and recovery of ("absolute rights") and punishment of offenders. Farmers are among the most vulnerable for individual thieves and organized crimes since much of the

farm output and property is "in the open", and dispersed in wide areas and many locations. Therefore, agrarian property is widely assured by *private modes* and "costs for protection" for all farms are significant (in terms of time and resources spent, hired security guards and services, "payments for property protection and restoration" etc.).

A good number of small farms *do not use any public (collective) modes* for insuring risk and face constantly severe hazards (and damages). The main reasons for avoiding market supply of insurance are high (unaffordable) premiums, unfavorable terms of contracts (not tailored to particular conditions of an individual farm), and low satisfaction from the services of commercial insurance providers (frequent disputes about the terms of contracts and extend of the harms, lengthy delay for payment of damages etc.). Consequently, a great part of farming resources and activities is not assured (insuring labor is practically absent, most animal, machineries and buildings are uncovered etc.), and a considerable majority of farmers bear the entire risk of failures.

Despite the potential efficiency (non-for-profit organization, members orientation, tailoring products to farms needs) the *collective modes* for farm insurance have not evolved in the country. Here the high transaction costs for initiation and development ("free riding" problem), and conflicting interests of different farms etc. impedes that process. Moreover, an effective public intervention has not been undertaken to assist (initiate, support, legislate) farmers in organization of ("quasi-public", "quasi-private") mode for collective supply of agrarian insurance. Neither badly needed guarantee and/or compensation fund has been launched. Subsequently, a good part of affected smaller and middle-size farms (having little internal capacity to bear yield failures and property damages) experience severe looses, and see the scale of their operations (assets, financial means) and welfare further decreased.

4.7. Governing of marketing

In marketing of farm output classical *trade across market* (business with a market agent, a wholesale market trade) is broadly used (Table 8). That form is frequently employed for marketing of vegetables, grains, and meat from all type of crop and livestock farms. Here standardization of products and technologies is higher, and thus market ("market prices", quality standards, competition) governs effectively relations with downstream partners. A trade on formal *wholesale markets* is still too expensive for the majority of farms (in terms of distance, charges; and requirements for standardization, packaging and certification), and only a fraction of them regularly utilize that mode.

When specificity of farm products to a particular buyer (processor, retailer) is high (special technology, quality, packaging, special time of delivery, special origin, freshens) then delivery contracts with a respective partner are used to tailor or protect transactions. A firm-processor is the major buyer for vegetables, fruits and grape, and milk for all kind of farms. Here a product specificity is usually coupled with a strong site-specificity (single buyer in the region, big capacity dependency), and frequency of transacting with a particular partner is high. Therefore, facilitating vertical links through direct and tight-up contracts is important for both sides. Recurrence of deals with "the same partner(s)" is usually high which restrict information asymmetry between counterparts and opportunistic behavior, develop mutual trust, necessitate special mechanisms for harmonizing relations (modes of payment, guarantee, control and dispute resolution, interlinking marketing with finance and/or inputs supply), and diminish the overall transacting costs.

Some type of *collective organization* (a general or marketing cooperative, a group marketing etc.) is used only by small and middle-scale farms for marketing of fruits and grape. The collective mode is associated with a number of transacting benefits unachievable by individual farms – non-for-profit operation, economies of scale and scope on "marketing

activities" (e.g. saving on search, promotion, operational etc. costs), superior negotiating positions, interlinking with storing, transportation, retail etc. However, development and maintenance of a cooperative organization have been quite costly in transitional conditions. Therefore, that form is not widely used by the majority of farms.

Table 8: Governing of marketing in Bulgarian farms (percent of farms)

Output	Modes	Unregi-stered	Coopera-tives	Agro-firms	Small	Middle size	Large
Grain	Own cooperative	9	7	9	12	11	0
	Another farm/firm	50	85	75	56	57	81
	Processor	25	39	37	22	27	75
	Retail	6	7	16	0	16	13
Vegetables	Own processing	0	0	15	0	7	7
	Another farm/firm	24	24	35	16	19	40
	Wholesale market	6	5	15	9	25	6
	Processor	38	66	30	19	25	40
	Retail	12	0	6	6	2	2
Fruits and grape	Own processing	15	7	19	15	18	25
	Own cooperative	24	7	9	13	11	0
	Another farm/firm	48	39	32	60	23	33
	Wholesale market	0	22	22	3	20	6
	Processor	15	36	25	19	30	12
	Retail	6	0	0	6	0	0
Meat	Own processing	0	10	15	0	12	15
	Another farm/firm	65	71	80	58	70	67
	Processor	29	43	30	30	48	33
	Retail	15	36	10	15	36	0
Milk	Own processing	0	10	15	0	12	15
	Another farm/firm	42	43	40	25	40	0
	Processor	51	64	45	32	52	100
	Retail	19	0	15	18	12	0

Source: personal interviews with farm managers

Intra-farm processing of farm output (internal "marketing") is practiced by some of larger farms for fruits and grape, vegetables, milk and meat. Namely, a bigger operational size and a high frequency of transacting give an economic opportunity for internal exploration of inter-dependant assets (in farming and processing). On the other hand, vertical integration let to protect dependant investments and to pay-off from marketing of final (processed) products – getting full profit on final products, trade with special brand names, lessen market dependency (easy storage and transportation) etc.

Retail marketing to final consumers is employed by some smaller-scale and cooperative farms for meat, milk, vegetables, and fruits and grape. It takes various forms - from on-spot "street" or "along the read" sells, through trade "on farm" or "farmers markets", to a customized "home delivery". The direct sell includes products for which quality, freshness, and origin are extremely important for consumers. This mode does not involve big volumes and serve local customers and visitors (e.g. tourists). Here a strong clientalisation often develops, transacting costs are insignificant, and deals are profitable for either side. In addition, cooperatives are traditionally used to supply basic food (e.g. meat, cheese) for their members and rural communities. However, in most cases directly marketed by small producers meat and milk do not correspond to formal hygiene and sanitary standards.

5. Likely Impact of EU CAP Implementation on Farm Structures

5.1. Impact of CAP on economic sustainability of farms

The EU integration and CAP implementation will provide new economic opportunities for many Bulgarian farms (Bachev 2005a, Bachev 2006). The EU funding alone, which agriculture will receive from 2007 on will be 5.1 times higher than the overall level of present support to farming. Besides, the EU accession introduces and enforces a "new order" (regulations, product quality and safety standards, protection against market instability, export support etc.)[38] which will eventually increase intensity and efficiency of agrarian transactions. The European integration will open up huge markets enhancing competition and letting local farms explore fully their comparative advantages (low costs, high quality, specific character of produce, innovation potential). That will lead both to an expansion of export and presence at growing internal market of all competitive farms.

The novel conditions of market competition and institutional restrictions will give strong incentives (and pressure) for new investments for increasing productivity and conforming to higher product and operational standards. The larger and business farms will benefits to a greater extend from the new institutional and market environment. These farms are the most sensitive to new market demand and institutional regulations since they largely benefit (or lose) from timely adaptation to new environment. Therefore, business farms will vigorously seek, find and make new investment for increasing competitiveness and meet new institutional requirements. On the other hand, small-scare produces and most livestock farms will have a hard time adapting to new competition pressure, and new food safety, environmental, animal-welfare etc. standards.

A significant part of farms will be qualified to receiving direct payments from the EU[39]. During 2007-2009 all farms will get single payments according to the amount of utilized agricultural land[40]. Depending on the number of applicants and farming area the level of subsidies will be between 69-74.2 €/ha in 2007, 82.8-89.1 €/ha in 2008, and 96.8-104.1 €/ha in 2009. Besides, certain farms may get top-ups from the national budget[41]. Consequently, from 153,640 to 668,000 farms would benefit from that public support.

In view of the current (low) level of support the direct payments will augment farm sustainability through increasing general (net) income or preventing its possible reduction. Direct payments could even induce usage of some less-productive and presently abandoned lands, and provide new income in certain less-favorable and mountainous regions of the country.

However, this mode of public support will benefit unevenly different type of farms as a little more than 3% of farms (large farms, cooperatives, and agri-firms) will touch more than 85% of the subsidies. Many effective small-scale operators (vegetables, tobacco, green-house etc.) will receive no or only a tiny fraction of the direct payments. Besides, specialized livestock farms will not be eligible to receive any payments under that scheme. Above and

[38] EU funds allocated for market support for 2007-2009 accounts for 388 million euro (MAF).

[39] From EU for direct payments there will be available 200.3 millions, 240.4 millions, and 281 millions for 2007, 2008 and 2009 accordingly, which corresponds to 25%, 30%, and 35% of the EU-15 level of direct payments for relevant year. Phasing will continue until complete balancing in 2016.

[40] A minimum farms size eligible for direct payments is set on 1 ha and 0.5 ha for orchards and vineyards. A minimum of 0.1 ha for each parcel also applies. There is a possibility for extension of Single Area Payment Scheme until 2011 (MAF).

[41] Bulgaria will be in position to add the direct payments from the national budget up to 55% from the EU level of direct payments in 2007, 60% in 2008, 65% in 2009, and by 30% over the applicable levels of the relevant year since 2010 (MAF).

beyond, the bulk of subsidies will go to the more developed regions where the biggest farms and UAA are located. All these will foster disparity in income and efficiency among different farms, sub-sectors and regions. That would also require some sort of (coupled with production and region) aid to maintain income level or compensate certain producers.

On the other hand, this method will support otherwise "inefficient" structures (e.g. small-scale, part-time, and co-operative farms) and non-market forms (such as subsistence and cooperative farming). As a result, the relative sustainability of these farms will increase - small scale-operations will become viable; cooperatives will be able to pay a rent; subsistence farming will turn to be more profitable etc. Besides, direct payments will tend to increase the farmland price and rent, and thus enlarge the costs for land supply in the biggest farms[42]. At the same time small-scale operators (which are mainly organized on owned land) will retain the entire subsidies and see their income increased. Subsequently, transformation of land management to the most effective forms as well as restructuring of farms will be delayed[43]. What is more, the EU funds will be effectively used to subsidize directly the consumption (subsistence food self-supply) of a good part of Bulgarian population.

Significant EU funds for rural development will be also available exceeding 4.7 times the relevant current level[44]. This amount of resources will let more and relatively smaller farms to get access to public support scheme and invest in modernization of enterprises. Furthermore, new important activities will be effectively financed such as diversification of farming; commercialization of local products; renovation of villages and infrastructural development; agri-environment protection and animal welfare; support for less-favored areas and regions with environmental restrictions; afforestation of farmland; restructuring of semi-market holdings; Community standards; food quality; producers' organizations etc. All that will let carrying out essential activities for agriculture and rural areas - commercialization and diversification of farming, introduction of organic farming, maintaining productivity and biodiversity of currently abandoned farmland, revitalizing mountainous agriculture etc. That evolution will bring additional income for farmers, and create new employment in rural area, and increase the overall performance of individual farms. Besides, it will extend the activity of some of the existing structures (cooperatives, group farms, firms) which could specialize in new functions (such as environmental preservation, maintenance of farmland etc.), and see their long-term sustainability increased.

Mostly bigger farms would be able to participate in these programs and increase their income. Namely these farms have superior managerial and entrepreneurial experience, and available resources and capital, and possibilities for adaptation to new requirements for quality and other standards, and potential for preparation and wining projects etc. Besides, the actual system of governance of public programs (prioritizing, management, control, and assessment) would less likely change overnight. Therefore, agrarian and rural development funds will likely continue to benefit exclusively the largest structures and the richest regions of the country; and more abuses will likely take place; and CAP support will not contribute to decreasing technological and income disparity between farms and regions.

The CAP implementation will foster farms enlargement and transfer of resources to most viable structures. An expansion of the farm size will be required by the necessity to achieve an optimal (bigger) and competitive operational scale for exploring potential of new technologies (special quality of products, economies of scale and scope etc.). Next, a

[42] Currently leased land comprises a half of UAA in unregistered farms and 90% of UAA in legal entities (MAF).

[43] That is not necessarily bad as far as keeping an extensive and a family character of farming is concerned.

[44] For 2007-2009 for agrarian and rural development are envisaged 733 million euro plus resources from the EU Structural Funds (MAF).

concentration of management will be needed for internal organization of inter-dependant assets and for exploration of possible economies on (predominantly) transaction costs – for effective soppy of inputs and credit, marketing, relation with agrarian bureaucracy etc. Finally, some minimum scale of activities will be obligatory for taking part in certain public support programs (marketing, agri-ecology, biodiversity, organic farming, tradition and cultural heritage etc.). The later would bring about extension of individual farms and/or evolution of group organization and cooperation.

Farming will be increasingly characterized with domination of larger and highly competitive business enterprises which will concentrate activities in all sub-sectors. Most cooperatives will keep and extend advantages to large number of petite landowners, rural labor, and smaller farms. Besides, they will have greater potential to explore economy of scale and scope on institutionally determined investment, adapt to formal requirements for support, use expertise, finance and execute projects. That will extend and intensify transactions governed through coops mode.

The new institutional restrictions and competition will be inevitably connected with decreasing the number and increasing the size of small commercial farms as a result of joint ventures, failures, and non-market orientation. On the other hand, only few subsistence farms will likely undertake market orientation and extend their present scale because of the lack of entrepreneurship, resources, advanced age of farmers, and insufficient demand for farm products.

Our analysis on likely impact of CAP implementation on economic sustainability of farms is also supported by the opinion of the leading experts on farm structures in Bulgaria. On the Eve of EU accession we asked the experts to assess the likely short-term impact of CAP implementation on farms income, and investment activity of farms, and farms access to public support programs, and quality of products of farms, and farms size.

Most experts believe that the introduction of CAP measures will affect positively the *income* of relatively large farms of all type as well as smaller-size mix unregistered farms, and crop and mix agro-firms (Table 9). At the same time, impact on income of relatively smaller holdings and most of livestock farms is expected to be neutral or even negative until 2009. Furthermore, the majority of experts consider that introduction of CAP will have positive effect on *investment activities* of the bigger farms, while for other farms no any impact is envisaged.

Table 9: Experts assessment of likely short-tem impact of CAP implementation on economic sustainability of Bulgarian farms (percent)

Impact of CAP on:	Unregistered farms						Agro-firms						Cooperatives					
	Relatively small			Relatively big			Relatively small			Relatively big			Relatively small			Relatively big		
	Crop	Live-stock	Mix	Crop	Live-stock	Mix	Crop	Live-stock	Mix	Crop	Live-stock	Mix	Crop	Live-stock	Mix	Crop	Live-stock	Mix
Income of farms																		
Positive	43	29	57	100	71	100	57	43	57	100	71	86	43	29	43	86	57	71
Neutral	57	43	43	0	0	0	29	29	29	0	0	14	29	29	14	14	14	29
Negative	0	29	0	0	29	0	14	29	14	0	29	0	29	43	43	0	29	0
Amount of investments																		
Positive	29	14	29	100	86	100	57	29	43	100	100	86	14	14	14	100	100	86
Neutral	71	71	71	0	0	0	43	71	57	0	0	14	71	71	71	0	0	14
Negative	0	14	0	0	14	0	0	0	0	0	0	0	14	14	14	0	0	0
Access to public support programs																		
Positive	29	29	29	100	100	86	57	57	57	100	100	100	43	43	43	100	100	86
Neutral	43	43	43	0	0	0	29	29	29	0	0	0	43	43	43	0	0	14
Negative	29	29	29	0	0	14	14	14	14	0	0	0	14	14	14	0	0	0
Products quality																		
Positive	29	43	29	57	71	71	43	57	43	71	86	86	43	71	57	71	86	86
Neutral	71	57	71	43	29	29	57	43	57	29	14	14	57	29	43	29	14	14
Negative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Farm size																		
Positive	43	43	29	57	71	71	71	57	43	86	86	71	43	43	29	29	29	29
Neutral	43	29	43	29	29	14	29	29	43	0	0	14	29	29	43	57	57	57
Negative	14	29	29	14	0	14	0	14	14	14	14	14	29	29	29	14	14	14

Source: personal interview with the leading experts on farm structures

According to the experts CAP implementation will boost the *access to public support program* of relatively bigger farms. Most experts do not anticipate any significant changes in the mechanisms for distribution of public funds to smaller commercial farms during first years of CAP implementation. What is more, some of them forecast even a decrease in access of small unregistered farms to public funds for support.

Estimates of experts are that introduction of mechanisms and instruments of CAP (higher quality standards, strong competition, enhanced public control, improved investment activity, improved public support) will eventually affect positively *quality of products* in bigger farms of all types. Likewise, expectations are that even relatively smaller livestock firms and cooperatives will be forced to adapt to superior EU quality standards and improve product quality.

Judgment of experts is that during the first years of CAP the new market and institutional environment will bring about a progressive change in the *farms size* in relatively bigger unregistered farms and most firms (with exception of small mix firms). The expectations are that introduction of CAP will be associated not only with additional private and public investment for technological modernization of farms, but with the enlargement of enterprises. Assessment is that CAP implementation would not affect positively only larger cooperatives of all kind. Apparently, a favorable general impact of the new policy would not compensate the significant internal inconsistency of the cooperatives as a production organization. As far as the impact of CAP on size of smaller unregistered farms, cooperatives, and mix firms is concerned, suggestions are for preservation of existing scale and/or diminution of farms. It is widely expected that during first years after EU accession, the process of concentration of resources management into larger (and more efficient) unregistered farms and agro-firms will continue. Despite that, it is not anticipated a high rate of absolute and relative reduction of smaller farms with exception of unregistered livestock holdings and specialized cooperatives.

5.2. Impact of CAP on environmental, social and organizational sustainability of farms

Environmental, social and organizational dimensions are important aspects which along with the economic stability determine the integral sustainability of a farm.

The CAP implementation would improve environmental performance of the farms. For receiving direct payments there is a mandatory requirement for farms to "keep the farmland in a good agricultural and environmental status". Direct payments could even induce farming on currently abandoned lands[45], and improve environmental situation and biodiversity. Furthermore, there will be a huge budget allocated for special environmental measures (going beyond the "good farming practices")[46]. A great number of farms will have economic incentives to take part in various agri-environmental and animal welfare programs such as: organic farming, measures for environmental and biodiversity preservation and improvement, measures respecting animal rights and welfare etc.

The CAP measures will affect positively environmental performance of large business farms. Namely these enterprises (potential big polluters) will be under constant administrative control for obeying new (EU) environmental and animal welfare standards.

[45] Presently uncultivated farmland reaches 8.6% of the total agricultural land (MAF).

[46] The National Strategy Plan for Rural Development for 2007-2013 allocates budget for "preservation of national recourses and improvement of countryside" amounting 623.3 million euro (27.1% of the total funding).

Therefore, they will be strongly interested in transforming their activities according to the new eco-norms immediately after joint the EU making necessary eco-investments, changing production structures etc. Otherwise they would not only be unable to receive direct payments and take part in other support programs, but risk to be severely punished (receiving fines, losing licenses, ceasing activities). Moreover, larger producers will have strong incentives to participate in special agro-environmental and biodiversity programs, since they would have lower costs (great potential for economies of scale and scope) and high benefits (permanent rent) from such long-term public contracts.

Nevertheless, some of the terms of the specific contracts for environment and biodiversity preservation, animal welfare, keeping tradition etc., all they are very difficult and expensive to enforce and dispute[47]. In Bulgaria the rate of compliance with these standards will be even lower because of the lack of readiness and awareness, insufficient control, ineffective court system, domination of "personal" relations and bribes. Correspondingly, more farms than otherwise would enroll will participate in such scheme (including the biggest polluters and offenders). Subsequently, the outcome of implementation of that sort of instruments would be less than the desirable ("European") level.

More to the point, direct costs and lost income for conforming with the requirements of special agri-environmental and biodiversity programs in different farms will vary considerably, and they will have unequal incentives to participate. Having in mind the voluntary character of most of the CAP support instruments we should expect that the biggest producers of negative externalities (large polluters and non-compliant with modern quality, agronomic, biodiversity, animal welfare etc. standards) will stay outside of these schemes since they would have the highest environment enhancement costs. On the other hand, small contributors will like to join since they would not command great efforts (and additional costs) comparing to the supplementary net benefit[48]. Moreover, the Government is less likely to set up high performance standards because of the strong internal political pressure from farmers and possible outside problems with the EU control (and sanctions) on cross-compliance. Therefore, CAP implementation will probably have a modest positive impact on the environment performance of Bulgarian farms.

The implementation of CAP will contribute to restructuring of commercial farms according to the modern market, technological, and institutional standards. A large part of agrarian inputs, technologies, and outputs will be having "mass" (standardized) character and market transacting will dominate at farm gates. Nevertheless, a specialization in productions for "niche markets" will also start taking place – products with special quality, specific origins, special technologies etc. That would require higher specific (to a particular buyer) investment and an "integral" management of transactions in farming, processing, retailing, and exporting. Besides, some diversification of enterprises into related activities (trade with origins, agro-tourism) as a mode for dealing with market risk should be expected. All that would bring about new special modes for private governance such as long-term contracts, collective agreements (codes of professional behavior), trilateral modes (independent third-party certification and control), "quasi" or complete integration.

Larger and highly effective (competitive) farms will be concentrating activities in all major sub-sectors. That will be positively affected by the expected boost in farming income, and by new opportunities for taking part in programs for development of farms and farms associations. At the same time, a strong price and quality competition will take out of

[47] Low-rate of farmers' compliance with environmental contracts is a serious problem even in some of the old EU members (Dupraz *et al*., 2004).

[48] Most activities of the small-scale farms have been highly "eco-friendly" as a result of the low intensification of production (Bachev 2005b).

business many small and middle-size crop (e.g. cereal) operators. Furthermore, many semi-professional and professional livestock farms will be less sustainable in middle- and longer-term because of the low productivity and not complying with the EU quality, hygiene, animal welfare and eco-standards. A few numbers of these farms will be able to adapt through specialized investment for enlargement and conforming with new institutional restrictions. Principally, a significant part of the "institutionally determined investments" do not generate income (ecology, animal welfare etc.), and there are no incentives for funding through commercial or public credit. Meanwhile, the EU pressure for enforcement of standards in market sector will increase and lead to closure or take-over of a greater part of livestock farms.

However, the process of restructuring of a good part of Bulgarian farms will not be positively affected. Many efficient smaller-scale farms in horticulture, tobacco, and livestock will get insignificant or no direct payments. That will reduce their financial capability to take part in other public support programs, and increase differences in the comparative advantages. Less or unsupported farms will be unable to compete with price, quality, assortiment etc. with large and highly subsidized (local and European) produces, and further decrease their sustainability.

At the same time, many less effective small and subsistence (cooperative and individual) farms will continue to persist and even benefit from the public support (direct payment, structural funds etc.). That will keep "viable" many less productive small-scale operators and cooperatives in years to come, and delay transfer of recourse management to more effective (and competitive) structures. The prospects for changing the "high sustainability" of small-scale and subsistence farming is mostly determined by the overall development of the economy, and increased non-farm employment and income opportunities. However, it is less likely to have significant positive changes in that respect in near future[49]. Simultaneously, this type of farming (especially miniature "domestic" livestock operations) will hardly be able to meet new EU quality, veterinary, phito-sanitary, environmental, animal welfare etc. standards. On the other hand, for the authorities it will be practically impossible (costly or politically undesirable) to enforce the official standards in that huge informal sector of the economy. Therefore, massive (semi)subsistence farming with primitive technology, food safety and animal welfare standards will continue to exist in years to come.

The CAP will also promote modernization of farms through expanding variety of contractual and organizational innovations - specific sort of contracts, new type of producers associations, spreading vertically integrated modes etc. Special forms will emerge allowing agents to take advantage of the large public programs - specializing in project preparation, management, and execution; investing in "relations capital" or "negative" entrepreneurship; modes for lobbying and representation; coalitions for complying with formal criteria (e.g. minimum farm size of UAA for direct payments, membership requirements for producers' organizations) etc.

Last but not least important, the CAP implementation will further improve income and social position of large business entrepreneurs located mainly in the richest regions of the country. However, a great majority of farmers would hardly see immediate changes in their social situation. Agrarian and rural development funds will less likely to reach the mass farmers, and contribute to diminishing socio-economic divergence between farms and regions.

Our analysis on likely impact of CAP on environmental, social and organizational sustainability of farms is supported by the leading Bulgarian experts as well.

[49] Overall unemployed rate is above 12% reaching in rural areas to 14.6% (National Statistical Institute). Real figures for unemployment are probably higher.

Table 10: Experts assessment of likely short-term impact of CAP implementation on environmental, social and organizational sustainability of Bulgarian farms (percent)

Impact of CAP on:	Unregistered farms						Agro-firms						Cooperatives					
	Relatively small			Relatively big			Relatively small			Relatively big			Relatively small			Relatively big		
	Crop	Live-stock	Mix	Crop	Live-stock	Mix	Crop	Live-stock	Mix	Crop	Live-stock	Mix	Crop	Live-stock	Mix	Crop	Live-stock	Mix
Environment																		
Positive	43	43	43	57	57	43	43	43	29	71	86	71	57	57	43	71	71	71
Neutral	57	57	57	29	29	43	57	43	57	14	0	14	43	29	43	14	14	14
Negative	0	0	0	14	14	14	0	14	14	14	14	14	0	14	14	14	14	14
Animal welfare																		
Positive	0	0	0	29	86	57	0	57	29	14	86	71	14	14	0	14	86	57
Neutral	100	100	100	71	14	43	100	43	71	86	14	29	86	86	100	86	14	43
Negative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Farmers social status																		
Positive	0	0	0	100	86	86	57	43	43	86	71	71	29	14	14	71	43	43
Neutral	86	43	86	0	0	0	14	14	14	14	14	29	43	43	57	29	29	57
Negative	14	57	14	0	14	14	29	43	43	0	14	0	29	43	29	0	29	0
Change in organizational form																		
Positive	14	14	14	43	43	43	14	14	14	29	29	29	0	0	0	29	29	29
Neutral	57	43	57	57	57	57	57	43	57	71	71	71	71	57	71	71	57	71
Negative	29	43	29	0	0	0	29	43	29	0	0	0	29	43	29	0	14	0

Source: personal interview with the leading experts on farm structures

Most experts expect that CAP implementation will improve *environmental activities* of relatively bigger firms, and specialized unregistered farms, and the largest part of the cooperatives (there are variation only for smaller mix cooperatives) (Table 10). For the rest of the farms experts guess is for a neutral (lack of) short-term impact on eco-performance of the farms. As far as impact on *animal welfare* in different type of farms is concerned, most experts imply that it will be positive for "professional" operators (bigger livestock and mix farms of all types, and for smaller livestock firms). The experts forecast are that CAP would not bring about a change in the animal situation in small farms during firsts years of implementation.

A predominant part of experts see an improvement of *social status* of farmers in all bigger-size unregistered farms and firms, in large crop cooperatives, and smaller-size firms. However, for the vast majority of farms experts do not expect any positive impact of CAP on social statues of farmers. What is more, a good part of them estimate a negative immediate effect with the introduction of CAP for all small ("unprofessional") livestock farms and for relatively bigger mix firms.

According to the experts estimates the new market and institutional environment will not bring about a progressive change in the existing *organizational structure* of farming until 2009. Farms development will be carried out through technological modernization, optimization of production structure, and enlargement of farm size, but it would not be connected with a significant organizational modernization.

Despite that the level of sustainability of different type and kind of farms will be changing as a result of the CAP implementation. A good portion of experts believe that new environment will affect organizational development of the beiger unregistered farms. On the other hand, evolution of market and institutional environment will have a negative impact on organizational form of all small livestock farms (closure, reorganization, modernizations).

6. Conclusions

The comparative institutional and transaction costs analysis of Bulgarian agriculture gives a new insight into the pace and outcome of the institutional modernization and EU integration. It helps us better understand much of the "phenomenon" of Bulgarian transition, and driving factors, efficiency, and sustainability of the specific governing structures.

Our study demonstrates that responding to the "specific" market, economic and institutional environment, agrarian agents develop a variety of effective modes to govern their exchange and activities – formal, informal; market, private, hybrid; simple, interlinked, complex; uni-, bi-, multilateral; subsistent, member-oriented, commercial, business etc. Moreover, an analysis of the specific governance (coordination, incentive, adaptive, transaction costs etc.) features is the key for proper evaluation of "high" efficiency and sustainability of typical business, cooperative, small commercial, and subsistence farms. Similarly, the actual efficiency of a particular mode for land supply, labor supply, inputs supply, financing, insurance supply, and marketing could be only estimated taking into account the comparative governance costs and benefits. Furthermore, this new framework let us make more realistic prediction about the feasible pace of EU CAP implementation in "Bulgarian" conditions, and assess its "specific" (different from other EU countries) impact on farms structures and sustainability.

Our new approach requires giving up traditional "institutional neutral", "transaction costs free", "normative", "uni-disciplinary", "sectoral" etc. models. It obliges to focus on analysis of structure of de-facto (formal and informal) property rights; and spectrum of

agrarian transactions, and institutional, behavioral, dimensional, and technological factors of transacting costs; and comparative advantages of alternative modes for governing of individuals exchange. That new area of research also calls for new kind of "microeconomic" data for transaction costs, their critical attributes, and modes of organization.

The powerful institutional and transaction costs analyses should not be restricted to academic studies. It has to be broadly used in designing, management, and assessment of various public (EU, Government etc.) policies and modes of intervention in agrarian sector. It could also contribute significantly to improvement of the governance of diverse farms, cooperatives, and business organizations. Last but not least important, this new concept may perfect the comparative studies between EU, candidate and transitional countries, defining efficiency of the specific governing structures and explaining the "logic" of their development.

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