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Czech Agricultural Sector: Organisational Structure and its Transformation.

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By

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Abstract

This paper describes and evaluates the impact of the transition process in the agricultural sector in the Czech Republic; its objective is to analyse and clarify the outcome of transition, and the prospects of the sector.

The paper starts with examination of agriculture under the communist regime, continues with the transformation process, in particular changes in total economic output, employment, production and other structural attributes. The qualitative assessment examines the transformation of state and collective farms into other corporate structures, where assets are not based on collective ownership. The paper further questions the reasons for a lack of profit and credit sources. The analysis is concluded with suggestions for further restructuralisation.

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1. Introduction

The well-known "Velvet Revolution" of 17 November 1989 started macroeconomic reform, and the process of transformation from a centrally planned to a market economy began. Compared to other Central and Eastern European countries (CEEC), the Czechoslovak economy in 1989 had some attributes favouring a successful transition, such as a low level of domestic and foreign debt, a fair degree of macroeconomic stability, a highly skilled labour force and a low rate of price inflation.[2] Nevertheless, new authorities had to cope with a difficult legacy. Having been among the most developed of European economies between the World Wars, communist rule saw Czechoslovakia slip backwards for 40 years and GDP per capita dropped well below the average of neighbouring EU countries, although remaining higher than in many other CEEC. The reform programme undertaken by the new governments, consisted essentially of price liberalisation, currency reform, privatisation and transformation. The goal was to achieve a market economy and to prepare the country for EU accession.

Similar goals were also set up in the agricultural sector. The issue of transformation, the setting of new agricultural policies and their shortcomings is the central focus of this paper. The objective is to identify the unique path, given by a favourable starting point for transformation and a relatively low share of agriculture in total economy that the Czech agricultural sector is following. As the president of the Czech Republic, Mr. Vaclav Havel points out: "There is no identity without continuity" (November; 2001). Therefore we will look at the development of the Czech agricultural policies and their practical effects.

The structure of this paper is therefore as follows. The first section examines the state of agriculture under the communist regime. The following section looks at the principles of transition in collective and state farms, as well as in the up-&-downstream sector. Further, the paper clarifies and analyses the outcome of transition. The paper also describes the principles of new agricultural policy and is then summarised by recommendations and conclusions.

2. Agriculture under the communist regime

Forty years of "agricultural policy" that was based on collective and state ownership, led to the creation of large agricultural enterprises, such as collective and state farms, which accounted for almost all farm output. Smallholders were transformed into wage earners. This loss of private ownership in most cases resulted in a loss of incentive, initiative and accountability.

During the communist time, collective farms played the dominant role in Czech agriculture. Collective farms (co-operatives) operated on 62% of the total agricultural land and accounted for almost 70% of agricultural production. Second in importance were state farms, which occupied 25% of the total agricultural land, and the other state-owned enterprises in agriculture, such as seed-producing farms, school farms and military farms, which occupied 12% of the total agricultural land. The 3,205 individual private farmers had less than 1 % of the total agricultural land (OECD; 1995).

[2] *As Slovakia demanded its independence, on January 1993 Czechoslovakia was divided into two countries, the Czech Republic and the Slovak Republic.*

Table 1: Agricultural structure in the communist time

	Number of enterprises	Average size (ha)	Share of total agr. land (%)	Share of total agr. production (%)	Employment in agricultre (%)
Collective farms	1,024	2,561	62	70	75
State farms	174	9,200	37	29	24.7
Individual farmers	3,205	12	1	1	0.3

Source: OECD (1995), FSU (1985), Doucha (2001)

In the pre-reform period, there were 1,024 collective farms, with an averaged size of 2,561 ha. The collective farm sector employed in total 403,000 workers, which represents 75% of employment in agriculture (OECD; 1995).

The emergence of collective farms was an outcome of the February 1948 Communist coup and consequent process of forced collectivisation (subject to Law no. 69 from 1949) (Kubacak; 1992). During this process of collectivisation, farmers were expropriated and forced to join large-scale collective farms. The assets of collective farms were thus composed of the collection of properties initially belonging to the private farmers. Throughout the communist period, all land on collective farms remained the legal property of individuals, but the members of the collective, in fact the legitimate owners, were never free to exploit their land. The only exception was the use of small plots/gardens. The existence of enormous fields within the collective, on the one hand, and the private small plots on the other hand, reflected a dual production structure.

Generally speaking, collective farms were located in more favoured areas than state farms and private farms. Collective farms were more efficient than state farms, even though in comparison to the state farms they received lower subsidies. Nevertheless, even with the presence of subsidies, production was not always profitable and therefore collective farms increasingly engaged in various activities, often in the upstream-&-downstream sectors, but in many cases totally outside the agro-food sector. These non-agricultural activities were substantially more developed in the collective farm sector, than in the state farm sector. The initiative of non-agricultural activities was to some extent based on enterpreneurially driven behaviour, as such activities were not subject to central planning, and income generated this way could be kept within the collective farm. It is important to note, that in 1989 non-agricultural activities represented about 20 % of market production, but accounted for almost 50% of the profits of collective farms (OECD; 1995).

In contrast to the collective farms, state farms were basically branches of one state-owned company. The state farm sector operated on confiscated, non-inhibitated land of usually border and mountainous regions, and later on land that originally belonged to continuously non-prosperous collective farms (Kubacak; 1994). In particular, such land was acquired by the state during two "Land Reforms". During the "New Land Reform", which took place after February 1948, land was expropriated from farms sized 150 – 250 ha. Such farms usually belonged to aristocratic families and the church.[3] "The Post-War Land Reform" confiscated land that during the Second World War belonged to Germans and traitors (Kubacak; 1992). The state farm sector consisted of 174 state farms averaging more than

[3] *Aristocratic families and the church used to own farms larger than 250 ha, but they were subject to a land reform through the "Annexation Law" of 1919. Nevertheless during this time, this land did not become "state land".*

6,000 hectares, however some of these farms exceeded 10,000 hectares of agricultural land. The state farm sector employed 128,000 agricultural workers in total, and accounted for 24% of employment in agriculture (OECD; 1995). State farm sector was the least efficient component of agriculture, because state farms were usually located in less favourable natural conditions, and also because the degree of motivation and the quality of management was substantially lower than on collective farms.

The importance of private farms in the pre-reform period was negligible in respect to total agricultural production. There were a total of 3,205 private farms accounting for less than 1 % of agricultural land, usually located in mountainous areas. Private farmers were also eligible for state subsidies. About 2,000 people were employed in private farms over 10 hectares (OECD; 1995).

The main "agricultural policy" objectives in the pre-reform period included: self-sufficiency in temperate zone agricultural products, low and stable food prices for consumers, and an equitable income distribution within agriculture. Self-sufficiency was to be achieved through central planning of resource allocation and agricultural production, assisted by a policy of political and social preference accorded to agriculture that redistributed resources in favour of primary agriculture. Price and income support policies operated in such a way as to enable all agricultural enterprises to pay their labour force the guaranteed basic wage, irrespective of economic performance.

The important policy instrument comprised a pricing system under which a uniform standard quality price for most agricultural products was fixed for the whole country. The basic price was adjusted by bonuses and penalties depending on the quality of the product relative to the standard quality. In addition, supplementary direct payments were available to all agricultural producers for several basic products to stimulate their production (OECD; 1995). Consumer subsidies for food (via a negative turnover tax) were paid to maintain stable relatively below cost prices in primary agriculture and the food marketing chain.

The price system was complemented by an income support system for farming in less favoured natural conditions, and a system of land taxation of producers farming in more favourable conditions. Support payments were differentiated according to the natural conditions of production and were partly funded by the land tax. The system stimulated output under poor conditions irrespective of the cost of production. The shock of the removal of these payments was therefore greatest for the least efficient farms. Further income support came from tax relief in the form of a deductible minimum amount per hectare applied to all farms.

Agricultural trade in the pre-1989 era was conducted according to the precepts of a state planned economy, with state-directed export and import policy clearly defining two different trading zones. The first trading zone was the so-called "rouble zone" for trade conducted with members of COMECON.[4] The second trading zone was the so-called

[4] *COMECON (also known as CMEA) was founded by a communiqué agreed upon by the Soviet Union, Bulgaria, Czechoslovakia, Hungary, Poland, Romania and Albania. East Germany joined in 1950, Albania was expelled in 1961, Mongolia joined in 1962 and Cuba in 1972. Yugoslavia had associate status. Finland, Iraq, Mexico, Nicaragua, and Mozambique had a non-socialist co-operant status with CMEA, since governments of these countries were not empowered to conclude agreements in the name of private companies, and therefore these governments did not take direct part in CMEA operations (Glenn; 1992).*

"dollar zone" for trade conducted with the rest of the world. The total agro-food trade balance was and still is characteristically negative as the Czech Republic is traditionally a net agro-food importer.

3. Agriculture in transition

The agricultural reform that began in 1989 was an integral part of the transition to a market economy. This reform was based on a respect for private ownership and on a belief that economic prosperity would be enhanced by the existence of private enterprises. The appropriate basic legal framework for implementing the structural reform of the agro-food sector was laid down by the laws enacted in 1991 and 1992. These laws dealt with property restitution, privatisation of state enterprises, transformation of collective farms and the "Land Act", and thus acted as the essential components of the transition process.

Property restitution in essence involved the return of property expropriated by the state to its rightful owners. The adopted principle of the process was full restitution of all property, which was expropriated after February 1948 by the Communist government. Claims for property restitution had to be submitted and justified before the end of 1992. Those who were entitled to restitution according to the law were Czechoslovak citizens or their heirs resident in Czechoslovakia. As the deadline was extended to 31 August 1993, after the separation from Slovakia on 1 January 1993, only Czech citizens could submit claims for restitution in the Czech Republic, as the Slovak citizens were entitled to follow a similar procedure in Slovakia. Hayashi (2001) argues that "the setting of a limited period of time was intended to exclude Sudeten Germans, who were expelled from Czechoslovakia during 1945-1947". Nevertheless, Doucha (2001) notes that both of these conditions have been amended many times in order to satisfy the interests of specific groups of citizens, e.g. emigrants from the communist period. Thus in effect, the restitution enabled the Czech Republic to go back to prior-1948.

The restitution, in principle, required that when it was possible, the original property had to be physically restored. Alternatively, property of an equivalent value could be offered. When the original property no longer existed, the claimant could insist on compensation in cash up to a maximum of CZK 10,000 (about € 285). This compensation was to be achieved with the remaining shares of the Restitution Investment Fund; a fund that registered all the properties that had to be restituted. In the case of land claims, land of equivalent value was an alternative when it was not possible to restore the original land, for example when it had since been built on.

3.a. Transformation of collective farms ("co-operatives")

As mentioned in section 2, after the Second World War, the Stalinist model of agricultural collectivisation was imposed on CEEC. The exception was Poland and Slovenia, where land remained in private property and use during the whole communist period. This forced membership of co-operatives (collective farms) in the rest of the CEEC included the nationalisation of non-land assets and title to land. Expropriated land was gathered together and large collective farms were created.[5] Additionally, also a small part of state land was

[5] *The Czech name for these farms is "druzstvo", meaning "co-operative", although membership was not voluntary. Therefore the name "collective farm" more accurately expresses their substance.*

farmed by collective farms and therefore was dealt with as part of the privatisation of state property.

Given the economic importance of collective farms, their transformation was a key part of agricultural reform. The process consisted of two main steps: the settlement of property rights and the property transformation into alternative corporate structures not based on collective property. Property rights settlement itself had two main components; one involving private property (mainly land) and the other part involving the distribution of collectively owned property. As land was never collectively owned, the latter process was not relevant.

The transformation process was based on "Transformation Act" 42/1992 Sb., and essentially meant converting collective farms into other corporate or legal structures that are not based on collective property. According to this law, the property shares of people who owned land and/or other agricultural property that was brought in the collective farm and/or who worked in the collective farm were calculated (Kraus et al.; 1994). These property shares were calculated on the bases of collective farm property after deduction of restitution claims. Essentially this property, after auditing valuation, was converted into shares. Gruza (1999) states that according to the Transformation Act, there were about 800,000 eligible shareholders. Out of these 800,000, about 50,000 (6%) requested their property to be physically returned to them and many of them started private farms. 450,000 (56%) of these eligible shareholders left their property shares in co-operatives, and thus they have a share on the economic output of the co-operative and interest in the profit-making of their co-operative. 300,000 (38%) of the eligible property shareholders did not withdraw their property in kind, nor did they "invest it" in the co-operative, but asked for compensation. The Transformation Act states that co-operatives must compensate those eligible property shareholders within seven years, which means by 1999. A number of co-operative farms compensated their eligible shareholders, usually in kind. However, there are still 80 co-operative farms, which have not repaid their debts, nor did they transform into other corporate structure (Gruza; 1999).

Property shares were used as (i) starting capital for new family farms, established on the basis of restitution; (ii) a membership investment brought into transformed enterprises; and (iii) "dead capital" for non-members of transformed enterprises, which had to be repaid within seven years. The next step in the process was the transformation of the collective farm into an alternative corporate structure such as a new co-operative or a joint stock company. By 28 January 1992 all those involved had to decide how to engage their new or reconfirmed property, including land, in an agricultural activity (OECD; 1995).

Only on the basis of approval by entitled persons could be established a new (transformed) co-operative or other kind of company. The new co-operative is acknowledged as a transformed one after being listed in the register of enterprises; in the opposite case, the collective farm is liquidated.[6]

The confirmation of land property was a relatively straightforward process and only became complicated when the owner wished to remove that land from the new corporate structure. In addition to land, in the process of nationalisation additional property was put

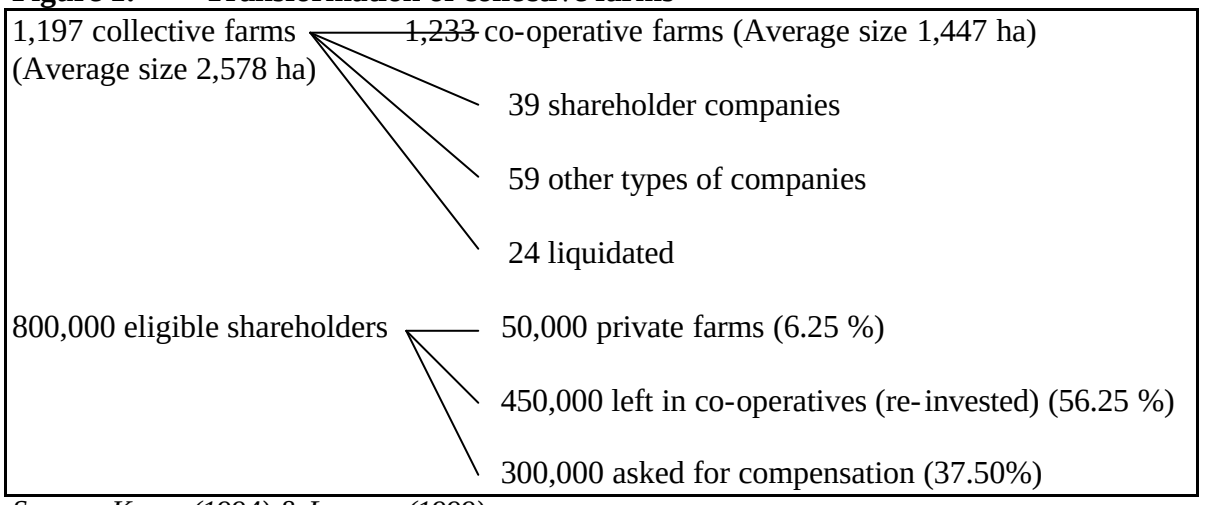
[6] *The new type "co-operative" is essentially a production co-operative, and unlike the typical Danish co-operative which is usually involved in the marketing of agricultural produce, this new Czech co-operative concentrates on the primary production of agricultural produce.*

into collectives, usually livestock and machinery. Private property rights remained valid throughout the collective period on such a property or its equivalent. Although somewhat more difficult to deal with than land, property rights issues only became a significant problem when the owner wished to remove the property.

Although theoretical solutions as well as legal regulations for property withdrawal were in place, its practical implementation encountered difficulties. These practical and logistical difficulties were inherited in the physical nature of the assets. In case of land restitutions, the identification of land boundaries on the large piece of land that used to belong to co-operative farms posed a challenge. Another logistical obstacle was making sure that the restituted parcel would be accessible to the owner, as the system of auxiliary field-roads has changed during the fifty years of communism. In case of non-land assets in kind, the fair assignment of property such as livestock, machinery and buildings was an obviously contentious issue. Where share property was involved, the new owner could opt to sell his shares to the transformed collective or to remove his property share in kind. This issue of claims' restitutions, pertaining to the transfer of land and other property in kind, was the competence of the Central Land Office and its local branches.

The transformation of collective farms was finished according to the law in January 1993 with the following results: the transformation process entered 1,197 collective farms, which were transformed into 1,233 new co-operatives, 39 shareholder companies and 59 other companies; 24 former collective farms entered liquidation (Kraus et. al; 1994). Evidence shows that the majority of members of the original collective farms decided to adopt the new co-operative form and only few former members started their own family farms. As the co-operatives were splitting into smaller, more manageable units, their average size fell by nearly half, from around 2,578 hectares to about 1,447 hectares (Lerman; 1999).

Figure 1: Transformation of collective farms



Source: Kraus (1994) & Lerman (1999)

Many of the new co-operatives were starting with a weak capital position, and as a result of large debts required additional access to financial resources. There were two main reasons for this "financial thirst". The old, large-scale equipment used by collective farms was inappropriate for smaller-scale individual farming. The need for family-farm equipment required substantial resources to be invested into structural adjustment. The management of

new co-operatives has somewhat improved and productivity has increased with the decrease in employment. Other corporate structures, such as limited liability companies and joint stock companies, were rarely adopted in the process of transforming of collective farms.

3.b. State farm privatisation

Privatisation is a transfer of ownership of state property to private hands and is distinct from the process of restitution by which state property also changes hands but reverts to those with a historical claim to ownership.

The privatisation of state farms, especially state land, was complicated by the need to retain land and other assets pending a full resolution of such claims. These delays in the restitution process contributed to delays in the privatisation of state farms. These delays led to the exclusion of almost all state farms from the second wave of voucher privatisation in 1994 and alternative legal methods of privatisation had to be adopted. Another complicating factor was that farms were left with large accumulating debts, because all restitution had to be made free of debt.

Therefore, privatisation of state farms started with all assets except land, against which there were no restitution claims. For privatisation purposes, these "residual" assets were valued net of debts. While the restitution process was largely incomplete the unrestituted agricultural land of state farms remained the property of the Land Fund. The land, currently belonging to the state, usually located in border regions, will be sold, with the exception of some research farms.

In 1999 the Senate of the Czech Republic approved an Amendment to the Law on sales of state land, which enables privatisation of more than half a million hectares of state land, from about 900,000 hectares that are now administered by the Land Fund (Hospodarske Noviny; 1999). The Land Fund of the Czech Republic recently implemented the above-specified amendment to the Land Law, by a decision to sell 10,284 land parcels with the total size of 11,703 ha (Czech Press Agency; 2001).[7]

3.c. Privatisation of upstream and downstream industries

The upstream and downstream industries under the communist regime were predominantly state-owned enterprises. Before 1990 major agricultural commodities were procured from agricultural enterprises at fixed prices, while inputs for farms were supplied by specifically appointed, essentially monopolistic procurement organisations. An important objective of the privatisation process was to break the monopoly powers of these enterprises.

Unlike state farms that were privatised mostly by direct sale, input supply industries and food processing and distribution industries were mostly privatised under the voucher privatisation scheme. Voucher privatisation was operated in two waves, one in 1992 and 1994. Czech citizens were offered a voucher worth 1,000 bidding points for nominal fee. The vouchers could be used to bid for the shares of companies listed for privatisation. Individuals could invest their points in investment funds, which could also bid for shares.

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[7] *The objective of the Land fund of the Czech Republic (Pozemkovy Fond Ceske Republiky) is to administer state estates, according to the law no. 229/1991 Sb.*

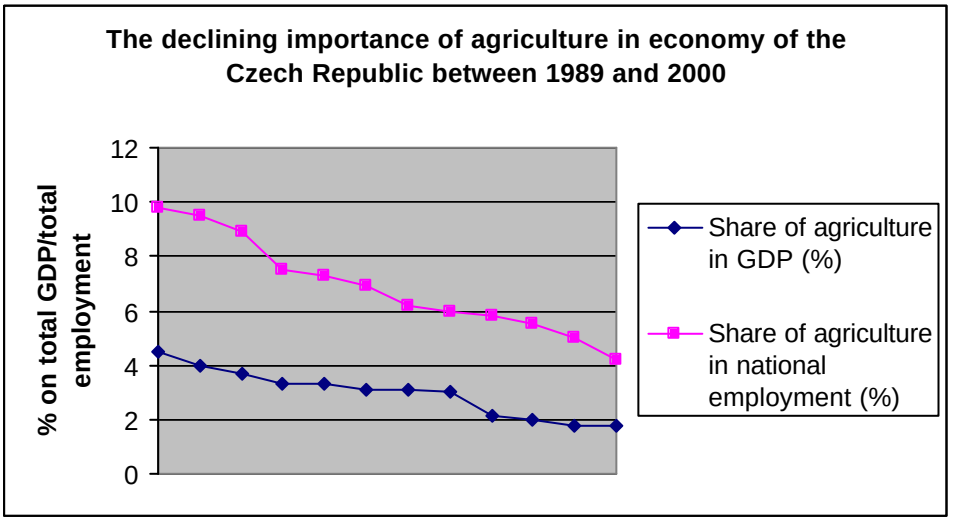
Each wave consisted of a number of rounds in which prices were adjusted administratively according to supply and demand. Many of these formally privatised companies have been able to maintain their dominant market positions. They have a number of competitive advantages over newcomers, such as specialised knowledge and experience of key production and marketing techniques. Consequently, there has been some tendency for state monopolies to be replaced by private or semi-public monopolies.

By year 1995 there were practically no non-privatised enterprises in the food industry. However, the state retains a small share of some privatised industries (OECD; 1995). Foreign direct investment was important in food industry privatisation.

3.d. Transformation effects

The outcome of agricultural transition was a dramatic contraction of agriculture. Although the share of agriculture in total economic activity in the Czech Republic was never as high as in other CEEC, it shrunk by 60% from 4.5% to 1.8% (OECD; 1995 & Ministry of Agriculture of the Czech Republic; 2000). The absolute size of agricultural production has contracted as well; livestock production more than crop production (Czech Statistical Office; 2000). A decade of transformation resulted in a 90% increased labour productivity. The consumption of foodstuff has also decreased, in absolute as well as relative terms; OECD (1995) estimated a 7% consumption fall and its relative proportion on total spending dropped from 26.9% (1989) to 23.9% (1997) (Kucera; 2001). This is a simple outcome of Engel's Law. Over the transition period, the share of agriculture in national employment fell from 9.8% to 4.2% (Davis & Pearce; 2000).

Figure 2: The transformation outcomes of the agricultural sector



Based on: Ministry of Agriculture of the Czech Republic; 1996, 1997, 2000, World Bank; 1999, Davis & Pearce; 2000, Government office of the Czech Republic; 2001

Private (individual) farming is a new phenomenon in Czech agriculture. Although private farming has strong roots prior to 1945, the communist regime virtually eliminated their existence. The last decade saw an upswing of private farming, with an average size of 34 ha (European Commission; 1998 & Lerman; 1999).

The number of private farms increased considerably, from 3,205 in 1989 to 32,365 in 1998. Private farms now operate on about 24% of agricultural land, contrary to EU countries, but

still do not play a dominant role in the Czech agricultural sector. New transformed co-operatives operate on about 35% of agriculture land (Kucera; 2001). And the remaining 41% of agricultural land is farmed by various agricultural holdings that operate as legal entities.

Table 3: Farm structure development 1989-1999 (% of agricultural land)

	1989	1995	1996	1997	1998	1998
Co-operative farms	65.6	47.0	43.2	38.7	34.5	32.2
Companies (Joint-stock & Limited Liabilities)	-	28.0	31.9	35.4	40.6	43.3
Private farms	0.3	23.3	23.8	25.1	23.7	23.5
State farms	34.1	1.7	1.1	0.8	1.2	1.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Source: Doucha et. al. (2001)

The employment preference at co-operative farms is rooted in the fact that most members of collective farms lacked experience with any other type of farming. Additionally, the previous level of security offered by the former collectives, in terms of employment and the provision of social services made a continuation of a co-operative form attractive, at least from the short/medium term perspective. After all, leaving this relative employment security would require a "risk-taking" attitude, which is an uneasy concept for most people brought up in a "risk-averse" environment.

Despite the successful transition of the Czech agricultural sector, about 3% of restitution claims have not been settled, being subject to court or administrative proceedings (Doucha et. al.; 2001). What remains to be solved is the privatisation of state land mentioned above; here the decision was taken and this land will be sold in the near future. Furthermore, although not big in size, the sensitive issue of restoring land to the church and Jewish people remains (Doucha et. al.; 2001).

Table 2: Czech farms and their size structure (1999)

	Number of farms	Agricultural land (ha)
Up to 10 ha	12,220	60,972
11-50 ha	8,130	179,740
51-100 ha	1,253	87,403
101-500 ha	1,625	382,305
501-1000 ha	748	556,722
1001-2000 ha	770	1,090,864
Above 2000 ha	396	1,145,173

Source: Based on Doucha et.al. (2001)
Note: Does not include small household plots

3.e. Support and policy

The 90% increase of labour productivity during the transition process illustrates the enormous structural changes that the Czech agricultural sector underwent in the past decade. Nevertheless, the generally negative economic outcome of the agricultural sector also indicates that the restructuralisation has not yet reached a stage where the economic output is viable.

In this context, it is important to mention that it is unlikely that during the pre-1989 era, co-operative and state farms generated profits, in purely economic terms, as the generous level of subsidies received from the communist governments masked the sector's ineffectiveness. However, exact data quantifying the economic outcome of the sector from the "market economy" perspective are not available. Available data show that support in the pre-reform period was high; the PSE was 59% (OECD; 2001).[8] The main part of PSE, about 78%, was used for market price support; the second important item of PSE (14%) was used as a farm income support. The corresponding CSE was -45%.

The transition period brought a decrease of subsidies. The total support estimate for 2000 was 1.32% of GDP (comparable to the EU average) (OECD; 2001). In the year 2000, the PSE was 18% (compared to 38% in the EU) and the CSE was –11% (compared to –29% in the EU) (OECD; 2001). This subsidy drop unmasked the mixed economic performance of the agricultural sector.

Table 5: Total support estimate (TSE) in agricultural sector, as a share of GDP (%)

Country	1986-88	1998	1999	2000
European Union	2.61	1.46	1.52	1.32
Czech Republic	12.09	1.69	1.56	1.32
Poland	2.56	2.29	2.00	1.45
USA	1.44	1.04	1.04	0.92

Source: OECD; 2001

This drop in agricultural support came "hand in hand" with the changes of agricultural policy objectives. New agricultural policy objectives are intended to create a market-oriented, efficient and internationally competitive agricultural sector. Agriculture, in principle, is not to be treated as a "special case" different from other sectors of the economy. Self-sufficiency in agricultural products is no longer a central policy objective and the strong political preference given to agriculture in the past no longer holds. While a goal of self-sufficiency is not explicit, stated short-term objectives include adjusting Czech agricultural production to domestic demand by the elimination of surpluses, which leaves some ambiguity as to the attitude to increased imports of less competitive products. Food security is defined as domestic production of basic foodstuffs at a level close to consumption, a definition that underlines the ambiguity. The new objectives can be divided into short-&-long-term aspects.

The short-run objective was a transformation designed to establish new private enterprises. The instruments chosen to achieve this objective included: (a) settlement of property rights in land and other agricultural assets, (b) creation of stable market conditions, (c) modernisation of agricultural technology, and (d) a better regional distribution of production in order to reflect both natural and market conditions.

[8] *Producer Support Estimate (PSE) is an indicator of the annual monetary value of gross transfers from consumers and taxpayers to support agricultural producers. The percentage PSE is the ration of the PSE to the value of total gross farm receipts, measured by the total production (at farm gate prices), plus budgetary support. The nomenclature and definitions of this indicator replaced the former Producer Subsidy Equivalent in 1999 (OECD; 2001, p. 272)*

The long-term objectives are focused on: (a) market orientation, (b) efficiency, (c) international competitiveness, (d) sustainability and other aspect that contribute to improvement of environment (Ministry of Agriculture of the Czech Republic; 2000).

The main instruments for the achievement of agricultural policy objectives are the two institutions created in 1992 and 1994, i.e. the State Fund for Market Regulation (SFMR) and the Support and Guarantee Fund for Farmers and Forestry (SGFFF) respectively. The essential function of the SFMR is the regulation of domestic market prices through the use of intervention purchases and export subsidies. The area payment is the most important direct payment. It is given on per hectare bases for agricultural land, and is differentiated according to the official price of land. The area payment has declined by 12% since 1999 to reach CZK 3.3 billion (€ 92 million) in 2000 (OECD; 2001). Another policy instrument is headage payment and this payment was recently substantially reduced. The new headage payment, which was introduced in 2000, provides support to extensive livestock breeding on permanent pastures. Overall the headage payments were 21% lower than in 1999 (OECD; 2001). Total expenditures on area and headage payments declined from 1999 to 2000 by 14% (OECD; 2001).[9] Direct payments to promote organic farming, which were introduced in 1998, are constantly increasing and in 2000 were at CZK 89 million (€ 2.5 million). For partial compensation for the damages to crops resulting from a severe drought, the government approved a payment to farms of CZK 200 million (€ 5.6 million) (OECD; 2001).

The price-regulating function of the SFMR is complemented by and depends on trade policy, mainly in the form of border tariffs. Since 1994, the SGFFF is the main instrument for payments used on input side, mainly in the form of credit subsidies.

3.f. Prices and profits

With the price liberalisation of 1 January 1991, the market volume decreased and prices increased non-proportionally in all segments: (i) markets for agricultural inputs, (ii) markets for agricultural products, (iii) markets for processed products, and (iv) consumer markets. The total volume of food consumption declined, the largest reduction of consumption occurring for butter, milk, dairy products, beef and sugar, which are traditional produce of Czech agricultural enterprises. Increases occurred in the consumption of fruit and vegetable, esp. in case of tropical fruits (Kraus et al; 1994). These increases in demand had no direct benefits to the Czech agricultural enterprises, but to the importers. This trend was complemented by a 4% decrease in arable land[10], which is why the market for agricultural products has contracted by 30% of the GDP contribution, more in animal than crop production (Government Office of the Czech Republic; 2001). This, for the primary agriculture unfavourable decrease in consumption, was complemented by rise in agro-food imports and stagnated exports (European Commission; 1998).

The most serious impact of the price liberalisation is that the development of producers' prices does not reflect the proportional price-increase of agricultural inputs - the price-cost scissor phenomenon. This price-cost squeeze negatively influences the sector's economic output. In this regards, the agricultural market, due to the non-balanced market links, failed. This could be explained to a certain extent by the poor fit between the objectives of

[9] *Acreage and headage payments are part of the WTO Blue Box. The use of such measures is subject to notification to the WTO, which the Czech Republic has not done.*
[10] *Calculations are based on data presented by Ministry of Agriculture of the Czech Republic (1998).*

multinational conglomerates and supermarket chains, the main market players, dictating market conditions, and the scattered interests of farmers.

Data series on the economic output (profits/losses) are documented in table 2. These data illustrate that profit was in most years negative.[11] The only exception is year 1995, when the economic output was slightly positive. Another exception is year 2000, but the reason of profitability was an exceptional government support of CZK 5 billions (€ 139 millions) to compensate for drought. This is a classical textbook example of economic theory, where bad weather does not necessary bring bad economic output. The total accounting losses from 1991 to 2000, including losses of CZK 3.7 billions (€ 112 millions) incurred by transfers of state farms in 1994, reached CZK 39.6 billions (about € 1.2 billions). It will be therefore difficult for the agricultural sector to sustain economic viability, if there are no financial resources. Although official data on the profitability of Czech agricultural sector in 2001 are recently not available, Jirovsky, Chairman of the Czech Agricultural Association, states that: "the profit will not reach the last year's CZK 3.7 bln. This will be because of the 11% increase of input costs. Other negative factors that negatively affected the economic profit were the BSE crises" (in MF Dnes; 2001).

Table 6: Profit(s) of the Czech agricultural sector in years 1989-2000

Currency	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Bln. CZK	+7.9	+6.6	-9.1	-12.9	-9.7	-7.8	+0.5	-0.5	-1.3	-0.4	-2.1	+3.7
Mil. €	+499	+353	-474	-445	-317	-232	+15	-15	-36	-11	-57	+130
Exchange rate CZK/€	15.9	18.7	19.2	28.8	30.6	33.6	34.3	34.0	35.8	36.2	36.9	36.0

Source: Calculations based on data presented by Ministry of Agriculture of the Czech Republic (1992-2001), Press Department of the Ministry of Agriculture (2001) and OECD (1995)
Note: Data in year 1994 include losses of CZK 3.7 billions incurred by transformation of state farms. Data for 1989 and 1990 encompasses only co-operative and state farms. Therefore these data do not include economic output of other state-owned enterprises that were active in agriculture during that time, or the economic output of private farmers.

Economic loss incurred by the agricultural sector is a response to changes in the macro-economic environment, mainly price liberalisation, decline in subsidies and credit access aggravation. Further reasons were linked to the structural changes such as restraints in non-agricultural activities, which previously contributed substantially to profits in agricultural holdings. The government, either directly or indirectly also influences the economic output of the agricultural sector. The not always sustainable intervention policies can distort the economic situation of the agricultural sector even further. The low political importance of

[11] *The calculation of profit is not straightforward. There is a difference between profit calculated during the centrally-planned economy and free-market. Furthermore, even in free-market economy, the calculation of profit under the system of single and double-entry bookkeeping is not tautological. Although both systems are similar, the double-entry bookkeeping is, compare to the single-entry bookkeeping, more detailistic in regard to the evidence of costs and revenues, and it is possible to embody costs and revenues of previous and coming years (in communication with Jaroslava Chloupkova, Sabris s.r.o., Czech Republic; January 2002).*

the agricultural sector, based on its small size and relatively low importance, also works against Czech farmers, however not necessary against the Czech economy in general.[12]

Doucha (2001) notes that, "only a relatively small number of farms of all types are approaching the maximum productivity that can be achieved under the current economic conditions, for a large number of farms maximum productivity is a far distant goal". At the beginning of transformation, there were not big differences among different types of holdings; more precisely clear ownership relations were among important factors influencing economic performance. In respect to the current situation, Doucha (2001) claims that the viability of farms as evaluated by their structure of assets and liabilities, liquidity, indebtness, etc., differ across the farm structure. About 30% of farms operating as legal entities are "ripe" for liquidation, another 40% of these farms are in a "grey zone" with the prospect of becoming healthy, and a remaining 30% of these farms have stabilised.

More precisely, Doucha (2001) states that in 1999, the majority (54.2%) of farms operating as legal entities showed a loss. In particular 56.9% of co-operative farms made losses, while the same indicator for joint-stock companies was 51.3%. In comparison, 53.4% of companies operating as Limited Liability structures created profit. Although these differences are not vast, we can conclude that "legal person" farm structures operating under the Limited Liability title are likely to be more successful. This could be explained by management accountability; in case of a farm operating as a Limited Liability enterprise the responsibility lies with one particular person who is in charge. It would be desirable if a direct comparison between farms operating as "legal" and "physical" persons could be made, but because both are subject to different type of accounting, this is not possible. Farms operating as "physical person" are typically private farms where the level of responsibility (similarly to the one of Limited Liabilities Structures) is probably higher. Their economic output in the single-entry bookkeeping is derived as the difference between incomes and expenses. Based on the results from the single-entry bookkeeping, farm structures sized 101-300 ha usually achieve the best result (consult table no. 4)

Table 4: Private farms in the Czech Republic (1999)

Indicator	Size category (ha)				Total
	5-50	51-100	101-300	301 and up	
Number of farms	201	160	141	53	555
Area farmed (ha)	6,103	11,611	23,299	34,517	75,530
Average size (ha)	30	73	165	651	136

[12] *In 2001, the state agricultural budget will amount to approximately € 391 million, which represents 2% of the state budget. Support schemes for the agrarian sector amount to € 192 million (European Commission; 2001). In comparison, the Polish government allocates 12% of its budget to the agricultural sector (European Commission; 2001).*

Number of permanent full-time workers	403	467	531	622	2,023
Share of permanent family workers (%)	95	78	62	17	58
Number of ha per permanent worker	15	25	44	55	37
Economic output from operations per permanent worker (€/month)	437	526	1,119	78	526

Based on: Doucha et. al. (2001)
Note: Economic output at private farms refers to the difference between income and expenses; Exchange rate used for 1999 is 1€ = 36.9 CZK

The viability of farms is particularly influenced by their level of debt and the form those debts take. More specifically Czech farms are burdened by the following three forms of debt (Doucha et. al; 2001): (i) Old (pre-reform) loans, which almost exclusively concern those farms operating as legal entities. (ii) "Transformation" debts, differing according to the manner in which the farms were established: transformation shares of co-operatives to the owners who have decided not to be members of the new transformed co-operative[13]. Furthermore this category encompasses interest-free loans to restituted farms or installments for the privatised non-land assets of privatised farms. It is encouraging to note that the transformation of co-operative structures into joint-stock companies improves the capital structure of the farms and their economic stability. (iii) New debts, esp. commercial loans acquired through the Support and Guarantee Fund for Farmers and Forestry. Despite the claims presented by Doucha (2001), data and interview with the Support and Guarantee Fund for Farmers and Forestry (SGFFF), suggest that the rate of repayment is impressively high, reaching 96.5%. This would indicate that the amount of new debts is not the most worrying; on the contrary it indicates that it is worthwhile to lend to farmers.

The relatively large debt overhang has been estimated at around CZK 50,000 mil. (€ 1,350 mil.) (European Commission; 1998). According to the Research Institute of Agricultural Economics in Prague, in 1999, owner's equity in joint-stock companies formed about two-thirds of all assets, whilst this equity indicator ratio was about 20% for co-operative farms. The rate of indebtness (the long-term commitments) in the owner's equity ratio represents 81% for co-operative farms, whilst in joint-stock companies only 11.2% (Doucha et. al.; 2001).

Carrying on debts only aggravated the bad economic situation of agricultural enterprises, and therefore the Czech government aims either at explicitly writing off old and transformation debts or at creating incentives (i.e. implicitly writing off through tax system) to stimulate co-operatives to repay their debts to the eligible shareholders (Gruza; 1999). The presence of state loans that the agricultural enterprises were unable to repay further deepened their difficult economic situation. In this regard, co-operative farms are more likely to suffer by these problems than other farming structures (European Commission; 1998).

[13] *These transfers were settled by 1999.*

Further pressure on the weakening economic performance came with the change of tax system. The current tax system is no longer favourable to the agricultural sector (Kraus et al; 1994). Romsa (1993) adds that this tax system is based on international standards and is levelled out for all sectors of the economy; i.e. no longer special treatment to the agricultural sector in the tax system.

4. Recommendations & conclusions

Agricultural sector in the Czech Republic has undergone fundamental changes in the last twelve years. Its basic structure and policies has changed during the transformation process in line with EU principles. The European Commission (2001, p.28) has assessed the recent state of transition as: "the Czech Republic can be regarded as a functioning market economy and should be able to cope with competitive pressure and market forces within the Union in the near term, provided that it keeps up and completes the implementation of structural reforms".

The new agricultural structure seems to be dynamic. Government policy does not seem to favour any particular structure and all enterprises are subject to the same Commercial Code. Based on the unbiased treatment of agricultural enterprises, all have to operate in a competitive environment in which survival is determined by the ability and flexibility of management. These new policies seem to be in line with the initiatives of the European Union in reforming the Common Agricultural Policy. Furthermore, Czech agriculture has, by the EU standards, retained a large-scale structure of operation that, if run efficiently, could be an asset. Currently, 7.7% of all registered farms have more than 500 ha and farm 80% of the agricultural land. On the other hand, 81% of all registered farms are sized under 50 ha and farm only 6.7% of agricultural land.

However the relatively large debt overhang indicates that the restructuralisation process is not yet completed. The typically production oriented co-operatives may be the most vulnerable structures in the long-term; after all, this form of farming has not emerged in countries with long tradition of market economies, except under very special conditions, for example the kibbutzim of Israel (OECD; 1995). Furthermore, there are inherent weaknesses in the management of co-operative farms in their pure form; the one-member, one vote principle can lead to poor economic decisions. Their survival under competitive market conditions would require their further transformation into other corporate structures or hybrid structures involving a mixture of co-operative management at the top and other corporate structures below. Lately, the existence of some co-operative farms seems to be justified only from a social point of view, as they seem to function as a "buffer" for rural employment, since farm managers "do not have the heart" to release the excess labour. This experience is similar to the one of developing countries, where the agricultural sector hides the unemployment.

Under the current conditions, it will be inevitable that many co-operative farms go out of business, but other farms or managers will take over their capital and land. The remaining co-operative farms are likely to experience some internal changes, probably transforming into joint-stock companies. Nevertheless, this will likely be a transitional stage on the way towards private farming.

Contrary to the co-operative farms whose activities are focused on primary production, co-operatives operating in the marketing and credit markets' fields may be beneficial to the

agricultural enterprises. Marketing co-operatives can create the necessary monopolistic/oligopolistic power to counterbalance the position of the usually monopoly/oligopoly market players in the up-&-downstream industries; thus the price-cost scissor effect can be diminished.

Although private farming saw a great upcoming in the recent decade, the proportion of private family farms in the Czech Republic is lower than in EU countries. This can be traced to the low level of business grit and willingness of people to change their life-style from occupational to entrepreneurial. A further reason can be seen in insufficient theoretical understanding and practical preparedness of landowners to undertake independent farming businesses. From the practical reasons, it was the lack of financial means for the necessary investments that had to be carried out for structural adjustments of large-capacity technologies to family farms' holdings. In a sociological context, the threat of unemployment was lacking, i.e. no incentives to undertake private entrepreneurial initiatives.

Another reason of the aggravated economic output could be idea of social capital (Ω). Putnam (1993) stresses the correlation between time of dictatorship and its detrimental effect on trust and co-operation. According to Paldam & Svendsen (2001), social capital is low in the old communist countries of Central and Eastern Europe. Paldam & Svendsen (2001) further claims that while normal social capital was destroyed under communism, some bad social capital was allowed to exist, and that it grew at the latter, soft stages of communism. Thus the rebuilding of social capital after the big change in 1989/90 took a bad direction, which it had already started to take during the latter stages of communism. Data presented by Paldam (2001) show that the CEECs have only about a third to one half of the social capital that Denmark has.[14]

Despite major drawbacks inherited in the Czech agriculture, the "way ahead" could be the use of the already widespread leasing contracts for land and other assets. Renting and leasing thus serve as an alternative to land purchases; long-term leases of seven to ten years are popular. Despite the low level of land prices, land sales have been negligible. The Research Institute of Agricultural Economy in Prague estimated that only 0.1-0.15% of the total agricultural area enters the land market annually.

Purchases of land, and any long-term investments are inhibited by the restrained access to agricultural credit (Swinnen et. al.; 2001). The current level of credit in the Czech agricultural sector is inadequate and the credit market is not working efficiently (Chloupkova; 1996). This structural element would have to change in order to make the agricultural sector profitable in the long run. The real bottleneck in the profitability issue and restructuralisation is the restricted credit access necessary for long-term investment purposes; without the necessary investment in the sector, its economic performance will not improve. This problem can be alleviated by tapping into existing social structures, as for example by relying on joint liability to supplement the traditional collateral can be applied in the Czech Republic (Chloupkova & Bjørnskov; 2001). Moreover, employing this social capital often creates additional social and economic benefits external to the original investment decisions.

[14] *Keynote presentation at the Danish Public Choice meeting on November 30th, 2001 in Copenhagen.*

In conclusion, the Czech agriculture underwent a partially successful restructuralisation. The real problem of the Czech agricultural sector is the lack profits, and that is why an even further restructuralisation that will bring in more viable forms of farming will be necessary.

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