Growing inequalities in added-value distribution in the Czech agri-food chains

Rostoucí nerovnosti v rozdělování přidané hodnoty v českých zemědělsko-potravinových rětězcích

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Abstract: If Czech and European agriculture have ensured people's basic existential needs for many centuries, then it seems paradoxical that in the present institutional conditions of advanced market economies under free price formation, the share of this branch's contribution to the distribution of added value has fallen to an untenably low level. Since 1990, Czech agricultural primary production has become predominantly unprofitable and is maintained only through the supports from the European and national public budgets. This demonstrates almost the stagnation of prices for agricultural products during the rapid growth of the general price level in the Czech economy. The new form of the Common Agricultural Policy cannot rely on subsidies, but must correct the institutional conditions in the production verticals (agri-food chains) in a fundamental manner. That is the condition for the future sustainability of Czech agriculture.

Key words: agriculture, sustainability, agri-food chains, market power imbalances

Abstrakt: Zabezpečují-li české a evropské zemědělství již po mnoho staletí základní existenční potřeby lidí, jeví se jako paradoxní, že v institucionálních podmínkách současných vyspělých tržních ekonomik při volné tvorbě cen, klesá podíl tohoto odvětví na rozdělované přidané hodnotě na neudržitelně nízkou míru. Česká zemědělská prvovýroba se v období od r. 1990 stala převážně nerentabilní a její udržování je možné jen při podporách z veřejných unijních i národních rozpočtů. To prokazuje takřka stagnace cen zemědělských výrobců při rychlém nárůstu všeobecné cenové hladiny v české ekonomice. Nová podoba společné zemědělské politiky nemůže spoléhat na dotace, nýbrž musí zásadním způsobem napravit institucionální podmínky ve výrobních vertikálách (zemědělsko-potravinových řetězcích). To je podmínka budoucí udržitelnosti českého zemědělství.

Klíčová slova: zemědělství, udržitelnost, zemědělsko-potravinové vertikály, nerovnosti tržní moci

Since 1948, Czech agriculture has been predominantly shaped under the conditions of centrally planned economy. Throughout the post-war period, Czech agriculture has been characterised by a fall in the labour force and a drop in agriculture's share in forming of the added value. Since 1948, when 1.319 million people worked in agriculture in the Czech Republic (33% of the overall work force in the CR), this number dropped, over forty years, to 528 thousand workers in 1987 (10% of the overall work force in the CR) or a 40% fall from the original state. In average almost 20 thousand workers left agriculture annually. The share agriculture had in forming the national income of the CR (in current prices) was 17.6% in 1948, in 1987 it was 7.1% (Statistical Yearbook of the CSSR 1988, p. 40).

In the last sixteen years (since 1990), following the transition from the centrally planned to the market economic system, this tendency for a fall in percentage of the overall workforce and in the formation of

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added value has increased even more emphatically. The dynamic of this fall was distinctly higher than in the previous forty years and was likewise higher than it was for agriculture in the other EU Member States, above all in the original Member States of the EU 15.

The aim of this paper is to analyse to what extent were these developmental tendencies for a fall in Czech agriculture in the period 1990–2006 caused by natural development and, in contrast, to what extent were they caused by the unequal market power in the agro-food chains.

METHODS

Generally, in this paper we analyse the development of prices in the Czech agri-food chains. One source of data is the monthly statistics from the Czech Statistical Office and they are integrated into the time series of the period 1991–2006. The prices for agricultural producers are compared with the mean costs of production, taken from statistical investigations made by the Research Institute of Agricultural Economics.

THE DEVELOPMENT OF CZECH AGRICULTURE IN THE PERIOD FROM 1990

In the development of Czech agriculture in the period 1995–2005, the following trends can be noted (see Agricultural Statistics 2006; Statistical Yearbook of the CR 2004):

1) Since 1990, the number of agricultural workers has fallen from 513.6 thousand to 136.6 thousand in 2005, i.e. 25.6% of the initial state. At the same time, the average nominal monthly wage per agricultural worker in 1990 was 3 692 CZK, in 2004 it was 12 930 (whilst in 2004 in industry it was 17 503 CZK and in construction 18 125 CZK).
2) Since 1990 the percentage of the agricultural workforce in the Czech economy fell from 9.5% to 2.9% in 2004. Similarly the share of the primary sector, i.e. agriculture, forestry, hunting and fishing, in the CR fell from 11.8% in 1990 to 4.0% in 2003. Whilst

Table 1. Indices of producer prices in the CR for the period 1990–2006 (2000 = 100%)

Period	Agricultural producers	Of which		Forestry	Industrial producers	Construction
		animal products	plant products			
1990	78.9	79.1	78.5	x	35.3	27.6
1991	69.5	67.3	73.1	57.5	60.1	38.2
1992	74.8	72.5	78.6	72.7	66.1	42.7
1993	80.4	75.7	89.2	73.3	72.2	53.7
1994	84.6	84.0	85.6	70.2	76.1	61.2
1995	91.0	90.7	91.7	81.4	81.8	67.6
1996	98.6	95.4	107.0	78.7	85.8	75.3
1997	101.5	98.0	110.6	81.4	90.0	83.9
1998	103.4	103.1	104.6	98.0	94.4	91.7
1999	91.6	92.7	88.9	100.0	95.3	96.1
2000	100.0	100.0	100.0	100.0	100.0	100.0
2001	109.0	109.5	108.0	97.6	102.8	104.1
2002	98.6	96.3	103.0	89.3	102.3	106.8
2003	95.8	92.5	102.0	80.3	101.9	109.2
2004	103.5	98.1	113.8	75.2	107.7	113.3
2005	94.0	98.5	85.4	79.1	110.9	116.6
2006	96.0	95.6	96.8	83.6	112.7	119.4
2006/1990	**1.22**	**1.21**	**1.23**	**1.45***	**3.19**	**4.33**

Source: ČSÚ (Czech Statistical Office), *forestry 2006/1991

the share of the primary sector in the EU 25 in 2004 was 5.1%, in the EU 15 it was 3.9%. This means that, since 1990, the percentage of the workforce in agriculture in the CR has fallen to the average of the EU. The process of a drop in the agricultural workforce, which has been ongoing in the "old" Member States since the 1950s, was realised at a huge scale in the course of just fifteen years. In the CR during the period 2000–2004, the average annual percentage fall was 3.9%, whilst in Belgium it was 1.5%, in Denmark 2.5% and in the Netherlands 2.3%. The average percentage fall for the 15 countries of the European Union was 2.1% in the period 1995–2000, 2.8% annually.

3) In the Czech economy, the share of agriculture in the gross added value[1] in current prices fell rapidly from 7.3% in 1990 to 4.6% in 1995, to 3.9% in 2000 and then to 3.3% in 2004.

The aim of this paper is to present the results of an analysis of the causes for this drastic fall in agricultural primary production's share in forming added value for agricultural-food industry commodities. The urgency of such an analysis is indicated by the basic statistical data on the price development of producers in the Czech Republic (Table 1).

If, in the CR, the period since 1990 was one of transition to market economy, then just a simple comparison of the development in prices for producers in the sectors of agriculture, industry and construction shows that in agriculture during this transition phase, there was a stagnation in the prices that was practically unique and peculiar to agricultural production. Whilst prices in construction works recorded a rise of 433% in the period 1990–2006 and those in industry a rise of 319%, in agriculture prices almost stagnated, as a growth of 22% in 17 years means an annual increase of 1.3 percent point. The prices of inputs for agriculture rose by 373% from 1990 to 2005.

If we bear in mind that in the period 1990–2005 inflation grew at roughly 400%, that since 1990 consumer prices have nearly quadrupled, then the stagnation of agricultural producers' prices in the food production sector, in the market allocation conditions that were established, signals an unnatural development from the institutional standpoint. This indicates that in food production verticals (food chains) the conditions for the effective working of the market mechanism have not been met in the last fifteen years and are not met at present.

An analysis of the institutional conditions of Czech agriculture

If Czech and European agriculture has ensured people's basic existential needs for many centuries, then it seems paradoxical that in the present institutional conditions of advanced market economies under free price formation, the share of this branch's contribution to the distribution of added value has fallen to an untenably low level. Since 1990 Czech agricultural primary production has become predominantly unprofitable and is maintained only through the supports from the European and national public budgets. These phenomena have arisen despite the fact that household expenditures on food in the CR are relatively high extending from 15% for high income households to 33% for pensioner households (see Statistical Yearbook CR 2004).

In the framework of installing a standard market economic system and in the framework of the Common Agricultural Policy, agriculture in the new Member States is exposed to institutional conditions in which it cannot get by without subsidies from public funds (presently the EAFRD and national subsidies).

From economic theory it has been known for several decades that the institutional prerequisites for the correct and effective working of the market as well as the mechanism for allocating resources have the following form (Perman et al. 1996, p. 93):

1. A market exists for all of the goods and services exchanged,
2. All markets have perfect competition,
3. There are no external effects (externalities),
4. All market participants have perfect information,
5. Ownership rights are fully defined and ascribed,
6. All goods and services are private property, there is no public property,
7. All firms maximise profit and all individuals maximise utility,
8. The long-term average costs are not diminishing (if production was characterised by economies of scale, there would be a natural monopoly and perfect competition would be unsustainable)
9. Transaction costs are zero,
10. All of the relevant functions satisfy the conditions of convexity.

It is also generally known among economists that the above-mentioned institutional conditions for the

[1] Gross added value in agriculture represents the newly formed value obtained by production units from using their production capacity. It is determined as the difference between production in agriculture, valued in basic prices, and the intermediate consumption, valued in purchase prices.

effective market allocation are not fully nor perfectly met in present market economies. This means that in practically every market economy, there are some products and services provided in ways other than by the market mechanism, that many markets do not meet the conditions of perfect competition and perfect information, that externalities and public property do exist and likewise there is such a concentration of products and services, that many producers and/or distributors have the power to influence prices and force their business partners to certain concessions. In all of these conditions the market, as an instrument for effectively allocating resources, fails.

The system of non-agricultural incomes supports for agricultural and rural development prepared for the period 2007–2013 is targeted so that the largest support, in the framework of AXIS 2, goes to supporting an improvement of the environment in the countryside. In this paper, the aspects and causes of growing inequalities within the agri-food chains are analysed. From the standpoint of sustainable development, the approach indicated is one of analysing the prepared conditions for providing support for environmental services and evaluating them not just from the standpoint of benefits for renewing the quality of the environment but also from the standpoint of forming the conditions for better employment in rural areas.

The untenably low share of agricultural primary production in added value is caused by two basic factors in the new EU Member States. The first is the excessive atomisation of agricultural producers and their economic weakness when determining prices in comparison with the economic strength of the supplier and purchaser links in the production-trade agricultural-food chain. The second is that the proportion of national (domestic) agriculture is reduced by the long-term excess supply of agricultural commodities, ie. by the pressure of low import prices for foreign competing products (low either due to the influence of high subsidies in the old EU Member States or the influence of the low exchange rates for currencies from developing countries for their agricultural products). The reason for the low added value in agriculture is also the low level of processing for products in the first level of production.

The causes of the necessity for agricultural subsidies

In 2004 Czech agriculture became a part of the European Union agriculture under very unfavourable conditions. The best evidence of this are the low quotas for individual agricultural commodities and also that direct payments are lower than those received by farmers in the states of the old EU 15. As a consequence of the accession contract, Czech farmers will be discriminated against in the EU common market until 2013 (Fajmon 2006, p. 3). Lower quotas and lower direct payments are one of the causes of the structural crisis in Czech agriculture.

To a marked degree, the structural crisis manifests itself latently – and in the Czech case, in the agricultural-food industry complex, it progressed from the basic factors in agriculture to the present structural disproportion in the development of the individual links of the vertical catenation.

The first manifestation of this structural crisis was the process of a fall in the production capital in the form of a sharp fall in the number of cattle and sheep. The next subsequent form and stage of the structural crisis was displayed from the start as the ongoing rationalisation process of reducing workers in agricultural enterprises, above all in the non-agricultural professions and the marked reduction in the control apparatus. This drop brought partially favourable economic results only to the end of the 90's, when it amalgamated with a sharp reduction in the number of farm animals and continues with a further forced drop in the number of workers. The second stage of this fall is not a result of rationalisation and increasing productivity, but a consequence of the overall de-capitalisation of farming enterprises.

At the start of the transition to a market system, property tax, primarily that from farm land and farm buildings was not counted as an emphatic burden, but gradually, with the fall of agricultural enterprises' market incomes, these items, together with the rent for rented agricultural land, became a more palpable cost burden. The average price of arable land exceeds 60 thousand CZK per hectare, which means that with a three-quarter of the percent tax on the price of land 450 CZK/ha from this form the production factor and 600 CZK/ha the rental (as a normative amount arising from the law). With the falling rate of return on cereals and rape seed, as the main crops in the determinant agricultural production areas, farmers earn 9–13 thousand CZK from one hectare (in 2003 the average revenue from one hectare of winter wheat CZK 13 497, spring wheat CZK 9 457, rape seed CZK 12 740 (see Poláčková 2004, pp. 57, 58, 66).

The tax and land rental have a fixed character, independent on the results achieved. Whilst their linear rate from the price of land does not correspond to the very differentiated rate of return, they absolutely ignore the level of the realisation prices of the decisive market products. In the case of both cereals

and oil bearing crops the price variability is inversely related to the level of the per hectare yield achieved and to such a degree that the lowest revenues from one hectare are attained in the years of the greatest harvests (which can be numerically and graphically documented, especially after 1998). This is the third form of the structural crisis in Czech agriculture manifesting itself.

The fourth latent, not completely obvious factor of the structural crisis in agriculture is the disparity between the ever increasing purchase price for new agricultural technology (the price of inputs into agriculture rose from 1990 to 2005 by 373%) and the ever more out of date and amortised agricultural technology at present. This "written off lifespan" can be applied to more than 80% of the existing machines. This creates an imbalance between the necessary financial resources for simple reproduction and the increasing share of taxable incomes as a consequence of the fall to the annulment of the deductible write offs.

It is necessary to point out the lack of conception and disharmony in the technical deduction and price policy in the framework of the entire European Union. For example it is demonstrated by the fact that the specific purchase prices for cars for 1 KW output are exceeded several times by the specific prices for tractors, and even by the purchasing prices for tractor engines. Particularly burdensome for the further sustainable development of agriculture is the necessity to acquire new technology on a loan or in the form of leasing.

The EU Common Agricultural Policy, realised by the means of quantity quotas, intervention measures for a given commodity from the market rules (the Commission decides about them), has protected agricultural producers in the EU Member States from the internal and external competitors for a number of decades. It has brought results in the form of self-sufficiency for the majority of traditional European agricultural commodities. On the other hand, in the environment of a liberalised market system this markedly regulated system of agricultural primary production abetted the growth of value inequalities within the food verticals. This is a common problem for all the EU member States.

The low economic might of agricultural primary producers in a free price formation system manifests itself by opening the price scissors not just between the prices for agricultural inputs and the prices of agricultural products, but also between the prices for agricultural products and the prices for consumers. In conditions where determining the size of the added value for individual levels is left to the free play of the economically unequal market players, there is an enormous reduction in the share of agricultural primary production in favour of the economically stronger supplier and purchasing links, endowed by market power[2].

RESULTS

If, for instance, we compare the development of purchasing prices for bulls (live weight) and the development of consumer prices for beef in the period 1991–2005 on the basis of the monthly and annual statistics for the Czech Republic, we find that whilst in 1991 the purchasing price for 1 kg of bull (live weight) was 45% of the consumer price for 1 kg of beef, whereas in 2005 this percentage was a mere 24%. That means that, in the example of this commodity, the percentage of agricultural primary production in the consumer price fell by almost 50% to roughly a quarter in the period 1991–2005. The Table 2 gives the price development for this commodity in three-year averages.

From the Table 2, it can be seen that over the last fifteen years in the three year averages the revenue share of agricultural primary production fell from 39% to 26%, i.e. to two thirds of the initial share and conversely the share of the retailers doubled (from 14 to 28%) and in absolute values it achieves a higher value than the price of the initial product of agricultural primary production (41.76 CZK per kg of beef sold for the retailers, 38.65 CZK for the farmer in the period 2003–2005). If the proportion for the processing industry remained constant in this fifteen year period, it would mean that, with regards to the economic strength of the retailers, there was an increase in their share of the profits from the consumer price at the expense of a fall in the share for agricultural primary production.

Comparing the above-mentioned share farmers have in the price of beef, 38.65 CZK per kg live weight, with the average values for feeding cattle (Poláčková et al. 2004, p. 81) shows that the production costs for 1 kg live weight were 39.01 CZK as a state-wide average for 2003 (whilst in maize and beet growing areas it

[2] Market power is the ability to affect price, to reduce competition and to set standards for a sector of economic activity. Market power is the ability to set customer prices above competitive levels (seller power) and/or the ability to set supplier prices below competitive levels (buyer power). Market power undermines competition. A firm with market power can increase its profits at the expense of its suppliers or customers or both, see Murphy 2006, p. 9.

was 40.55 CZK per kg live weight). **The production** of beef in the form of fodder for **prime quality bulls** (the same as for the best quality beef) was, for the state-wide average **loss making** (and that is also using the average hourly wage in agriculture, which is lower than the national average).

Here it is appropriate to quote from Green Report 2005 (MoA 2006, p. 40):

"According to the Research Institute of Agricultural Economics (VÚZE) estimates, the costs for feeding slaughter house bulls in 2005 rose by 2.8% to 48.95 CZK/kg live weigh (l.w.). The costs of a kilo of growth showed an annual increase of 3.3% to 41.69 CZK/kg. An unfavourable influence on this increase was the growth in labour costs and the higher costs of auxiliary activities and services. The costs in 2005 exceeded the average realisation price by 8.32 CZK/kg l.w., which represents an improvement on 2004, when this difference was 9.6 CZK".

When taking into account the fact that it takes approximately 2 kg of live bull to make 1 kg of beef and this fact is projected onto the entire production chain, statistical data show that, at the expense of a falling proportion for the farmers, the share going to the processors and distributors has increased. Specifically processors have increased their share in the profits from the consumer price from 8% to 20% (with transitory increases in their share to 35% in 1997–1999 and 27% in 2000–2002). The distributors share has grown steadily from 14% to 28%.

Overall, from the last fifteen years of applying the market allocation mechanism, it can be said that at the start of the 90's the division income in the production chain for beef was equal, after fifteen years the present situation is distinctly unequal. Whilst the share of agricultural primary production has fallen to two thirds of its original state, the share of the distributors has risen by 100% and that of the processors by 250%.

At the start of the 90's, farmers feeding cattle had to sell 2.57 kg of live bull for the purchase of 1 kg of rump, however, over the course of the last fifteen years, that amount has steadily risen (in the period 1994–1996 it was 3.33 kg, in 1997–1999 3.58 kg and

Table 2. The development of average prices for 1 kg of bull (live weight) and the prices of 1 kg of rump (CZK) and the development of the share in the consumer price (data in brackets express 2 kg live weight (l.w.) = 1 kg of meat)

Average for the years	1 kg bull (l.w.) best quality (CZK)	Price of 1 kg processed rump (CZK)	Consumer price of 1 kg rump (CZK)	Share of agriculture in consumer price	Share of processing in consumer price	Share of retailers in consumer price
	a	b	c	a/c	(b – a)/c	(c – b)/c
1991–1993	27.12 (54.24)	60.05	69.87	**0.39 (0.78)**	**0.47 (0.08)**	**0.14**
1994–1996	34.82 (69.64)	93.62	116.13	**0.30 (0.60)**	0.51 (0.21)	**0.19**
1997–1999	37.65 (75.30)	109.47	134.59	**0.28 (0.56)**	0.53 (0.35)	**0.19**
2000–2002	37.35 (74.70)	114.30	144.94	**0.26 (0.52)**	0.53 (0.27)	**0.21**
2003–2005	38.65 (77.30)	109.47	151.23	**0.26 (0.52)**	**0.47 (0.20)**	**0.28**

Source: CZSO, Monthly statistics of price development

Table 3. The development of average prices for 1 kg l.w. of cow class B and the prices of 1 kg of rump (CZK) and the development of consumer prices (data in brackets express 2 kg l.w. = 1 kg beef)

Average for the years	1 kg l.w. for cows class B (CZK)	Price of processing 1 kg rump (CZK)	End price 1 kg rump (CZK)	Farmer's share in end price (2 kg l.w.=1 kg meat)	Processors' share in end price	Share of distribution in end price
	a	b	c	a/c	(b – a)/c	(c – b)/c
1991–1993	16.67 (33.34)	60.05	69.87	**0.24** (0.48)	0.62 (0.38)	0.14
1994–1996	23.63 (47.26)	93.62	116.13	**0.20** (0.40)	0.60 (0.41)	0.19
1997–1999	21.91 (43.82)	109.47	134.59	**0.16** (0.32)	0.65 (0.49)	0.19
2000–2002	22.30 (44.60)	114.30	144.94	**0.15** (0.30)	0.63 (0.49)	0.21
2003–2005	19.88 (48.70)	109.47	151.23	**0.13** (0.26)	0.59 (0.46)	0.28

Source: CZSO, Monthly statistics of price development

in 2000–2002 3.9 kg) and in the three years from 2003–2005 it was almost 4 kg live weight for the purchase of one kg of rump (3.92 kg).

An even worse position in the division income was forced upon farmers in connection with the liquidation of cattle herds (the total number of cattle in the CR dropped from 1.195 million in 1990 to 574 thousand in 2005). Over the last fifteen years of the restructuralisation period, roughly 600 thousand cattle were slaughtered. The proportion of cows among slaughtered cattle was 42% in 2005, that of bulls ca 50%.

In relation to Table 3, if we bear in mind that the average costs for feeding cattle in 2003 in the CR were 39.01–44.17 CZK for 1 kg live weight (Poláčková et al. 2004, pp. 46, 81), then the average sale price of 19.88 CZK/kg only covered 45% of the production costs, whilst the processors and distributors received 87% of the overall price, the agricultural primary produces received a mere 13%!

A similar development can be observed in the case of chuck beef (with bones), where the share in 1 kg of live weight from 1991–2001 fell from ca 90% to approximately 50% or it fell to roughly a half of the original share.

If the average consumer price for 1 kg of rump has increased absolutely from 61 CZK in 1991 to ca 151 CZK in 2005 and the average price of live weight bull from 27 to 39 CZK, it means that the share of agricultural primary production has fallen dramatically. Similarly in the case of chuck, there was a growth in the consumer prices for 1 kg of beef over the same period from roughly 30 CZK to 70 CZK in contrast to the stagnating purchase price for bulls in the live weight.

It must be stated that leaving prices within the food industry chain to free market transactions was very negatively influenced by both the oligopolistic structure of agricultural suppliers and, particularly, the oligopsonistic structures of the retailers of the final agricultural products.

The Figure 1 documents the development of monthly prices for pork for the period 1991–2006.

From the Figure 1, it can be seen that 1 kg live weight of pig meat (the price for the agricultural primary producer) has more or less oscillated around 30 CZK. Whilst the production costs for feeding pigs in 2003 were, on average, 32 CZK live weight per farmer. The purchase price for prime quality meat similarly oscillated around 40 CZK, however, the prices for processors grew by approximately 25 CZK and the consumer prices by 40 CZK per kilo of rump pork. The mark up on 1 kg is currently 20 CZK. Whilst the agricultural primary producer cannot cover the production costs, the processors and distributors can easily ensure decent incomes from the consumer price.

Similar growth in the imbalance can also be observed in the chains for plant products, particularly in the chain for producing and using cereals in the form of wheat and rye as the basic input materials for bakery products. Whilst in the period 1991–2005 the purchase price for cereals from agricultural primary

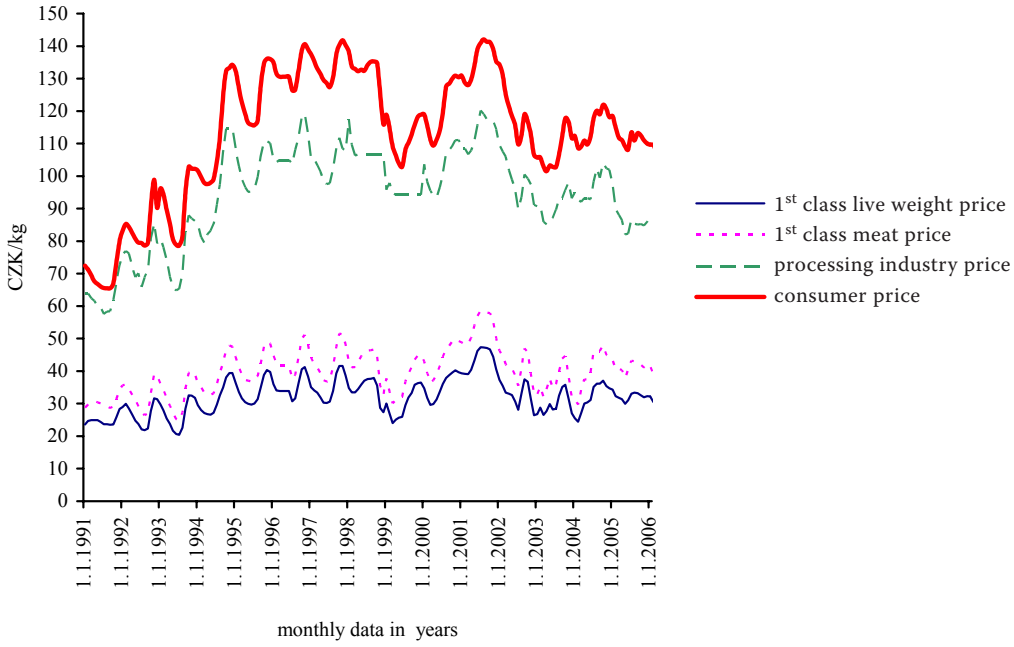

Figure 1. Development of pork prices (CP = consumer price rump)

Source: CZSO, Monthly price statistics

production stagnated or grew at a very slow rate, the consumer prices for bread in the same period recorded marked growth, especially by means of the growing diversification of the bakery products on offer.

If we use wheat production as a representative example, it can be said that, according to the RIAFE investigations, the average production costs for 1 kg of winter wheat is in the region of 3 CZK (Poláčková et al. p. *17*). The realisation price for wheat is currently at about the same level of 3 CZK per kg. The price of a kilo of semi-fine flour is around 6 CZK per kilo (CZSO, Investigations into the prices of selected products), however the price of a kilo of white wheat bread is presently 43 CZK. Whilst in 2002 a farmer had to pay 7.5 kg of wheat for a kilo of bread rolls, after only four years (to the end of 2006) he/she had to "pay" 14 kg of wheat (whilst the realisation price of 1 kg of wheat was ca 3.4 CZK in 2002, in 2006 it was 3 CZK). To flesh out this development, it is necessary to mention that in 2002 the average price for 1 kg of white bread was 25.64 CZK, in the third quarter of 2006 (7–9/2006) it was 42.20 CZK.

If we look at the development of the shares in added value in the case of milk production, the Figure 2 presented below shows us the same fact as for the previous products. Price increases in the period 1991–2006 were to a significant part swallowed up by gains in the share of processors and, in particular, distributors and retailers.

From the RIAFE study (Poláčková et al., p. 42), it can be seen that the costs for producing a litre of milk in 2003 were 7.63 CZK/litre, which is practically the same as the sales price. Thus a farmer works with a virtually zero profit and all price increases over time are swallowed up by processors and, particularly recently, by retailers.

This means that the same phenomenon can be seen here as it was for the production of beef and other agricultural products. There was a growth in the share distributors and processors had in the added value at the expense of reducing the share of the agricultural primary producers.

This environment of growing inequalities has led to farmers finding themselves in a situation where they cannot survive economically without subsidies from public funds and furthermore they are often the targets of criticism that society must pay for their activities (for instance Hospodarske noviny 17. 8. 2006). In fact society is paying for the inequalities distributed within the food chain and actually pays more than is socially necessary as under a more equal distribution of the revenue it is clear that they would not have to touch the subsidies from public funds. Practically the same situation occurs in the other EU Member States in which the participation of supermarkets in the distribution of food and assorted consumer goods has reached a dominant effect. For instance in Great Britain in 2003, the market share of supermarkets in the consumer market is estimated to be roughly 75–95% ('Till Roll Share of Trade').

At present, agriculture is not only burdened by the enormously growing input prices, but it is also

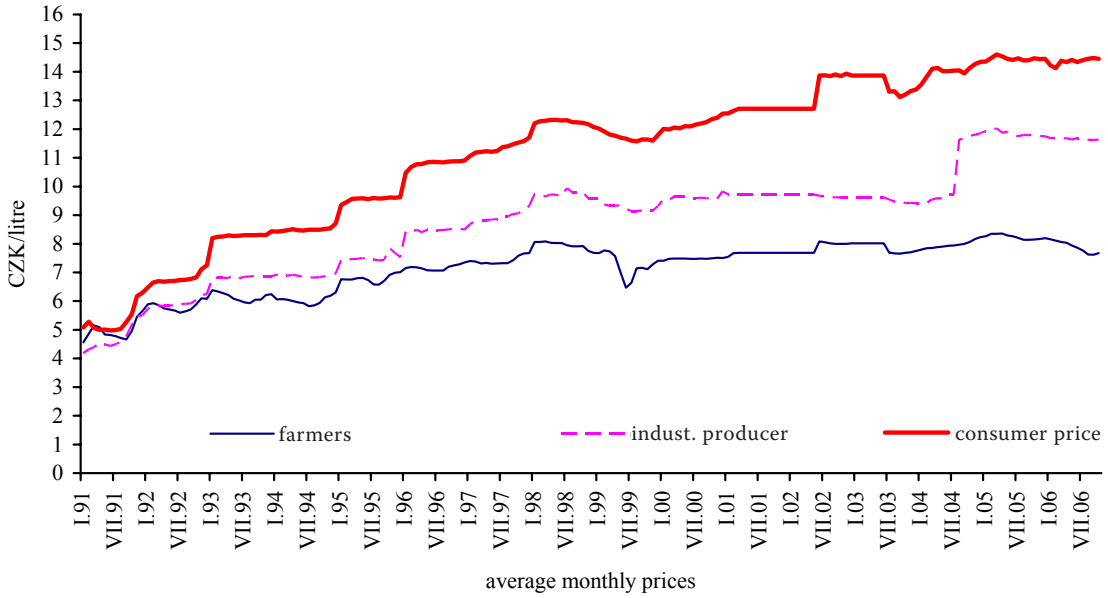

Figure 2. Developments in milk prices

Source: CZSO, Monthly price statistics

weakened by not covering the production costs through the realisation prices received for agricultural outputs[3].

DISCUSSION

At the introduction of this discussion, we will put the question: "What does the competitiveness of Czech agriculture depend upon?" From the following text, it can be seen that the crux of solving the problem of competitiveness in Czech agriculture is not in agriculture itself.

The realisation prices of agricultural producers are formed under the economic power of oligopolies and oligopsonies of multinational supermarkets. A fairly neglected question is that of mass-media advertising. Hypermarkets' dominant position enables them to ignore any rules and checks on whether they have been adhered to whatsoever. Mass media advertisements with multimillion and multibillion expenditures form a barrier for the medium and smaller enterprises that is very difficult to overcome. For example the main producers in the milk, oil plant chemical industry and drinks production spend many hundreds of millions and billions of CZK on television advertisements. The aim of these advertisements is to promote small volume products with high per unit prices (a typical example is the multinational Danone with its product Actimel, which is sold to the consumer at 112 000 CZK per tonne), the dispatching of these to the nationwide market invokes further handling costs, at hundreds of millions of CZK.

In contrast advertising outsiders (e.g. Kunín Dairies) have to make do with supplying the market with mass consumption products with a low specific price (milk with the consumer price per tonne ranging from 9 to 12 thousand CZK), which it is necessary to distribute in the opposite directions over a territory often exceeding hundreds of kilometres.

These extra costs of the dominant firms, including the hypermarkets, are transferred to the supplier of raw materials or the agricultural primary producers.

Within the individual levels of food production, processing and realisation and those of other consumer goods, there is an inverse double discrimination in use. Whatever has to be made cheaper for supplies to hypermarkets, the processor has to make more expensive when supplying the dispersed network of small retailers in the countryside.

The third course of these discriminatory measures comes as a fall in purchasing prices from the agricultural primary producers, where it can be demonstrated, even at the nationwide scale, by the price remanence or the deliberate delay in decreasing the consumer prices. This has been most evident in the last five years for bakery wheat and white bread. In 2003 the price of bakery wheat fell by a half, but the consumer price for all types of white bread have continuously shown incremental growth.

The second frequently used argument for justifying the need of public supports for agricultural production is the pressure of low prices from exported agricultural commodities. The low level of export prices is, in the majority of cases, a deceptive criterion because it is either supported by massive supports for exporting agricultural commodities in the developed market economies, which cannot so far compete with the level of support in the individual new EU Member States or, in the case of imports from developing economies, they stem from the maintenance of inappropriately low exchange rates for their domestic currencies (in comparison with purchasing power parity).

Presently in the CR multinational business chains distribute the predominant majority of consumer goods. In the structure of the consumption basket, food and beverages make up one quarter to one third of Czech households consumption expenditures. From the examples given above for some of the important agricultural products and the food vertical linked to them, it arises that in the CR the market allocation of food by means of the multinational supermarket chains lead to a socially unbearable differentiation of incomes. Practically all of the price increases are swallowed up by the supermarket chains and the processors of agricultural products, whilst the income share for the farmer is kept at the border or below the border of production costs for agricultural products. Agricultural enterprises only survive thanks to the administratively demanding system of supports from the public funds (EU and national), which make food production complicated and expensive ((Boháčková, Hrabánková 2006, p. 585).

The experiences from Great Britain provide a very similar picture: *"In some sectors (arable, sheep and beef) the difference is made up by the taxpayer through*

[3] *"One of the most shocking forms of exploitation is that farmers are frequently paid less than the cost of production for their goods. The UK dairy industry, for example, has been heavily hit by supermarkets who have used the oversupply of milk for their own advantage. It costs a small dairy farmer anything from 18p to 22p to produce a litre of milk. Until the Milk Marketing Board was abolished in 1994, they were being paid 24p per litre. Farmers are currently being paid 19p per litre, for what sells in the supermarket for 72p."* (What's wrong with supermarkets**,** pp. 12–13).

subsidies. While farmers are often blamed in the media for being "subsidy junkies" the truth is that in some cases the farm gate price is so low, that even with the subsidy, farmers cannot cover their costs." (What's wrong with supermarkets**,** p. 13).

The current political will to check the inequalities of revenue distribution in the food chains in the new and old EU Member States is very low and therefore the EU common agricultural policy is predominantly aimed at supports for agricultural subjects from public funds, but now in the framework of the concept of multifunctional agriculture.

"The supermarkets and big processors are increasing their share of the profit margin by squeezing the whole supply chain, and farmers at the end of the chain are in the weakest position. Agricultural subsidies essentially go straight into supermarket profits." (What's wrong with supermarkets**,** p. 13).

This discriminatory policy of oligopolies and oligopsonies is manifested in the entire structure of the demand for food and other goods that are part of the daily consumption. Income-wise it is below average for one family member for more than two thirds of consumers. The lower the family income per head, the greater the proportion of consumer outlays these families are compelled to spend on food. Families with above-average incomes show a lower share of their expenditures on food, however, the level of their consumption is higher in all cases and in certain types of food it is very marked, for instance beef, pork, coffee drinks, non-alcoholic beverages and chemical hygienic preparations.

A shortcoming of the analyses is that more expensive bread, milk products etc are counted to the tenth of a heller, but the prices of agricultural products are numerated in tonnes. For example, a multi-grain bun at 50 grams sold at 6 CZK costs 120 thousand CZK per tonne, whilst the price of bakery wheat has fluctuated at around 3 000 CZK per tonne since 2003. The example of the expensive small-volume Actimel was given above.

Similarly shocking disproportions are found amongst the prices for agricultural products from beef and their consumer price in the ordinarily priced restaurants. These disproportions are greater than ten times.

The developmental tendency leads us to the conclusion that to solve competitiveness it is necessary to look in the system of market relations that decide the food verticals of the chains.

CONCLUSION

One of the urgent tasks of the scientific sphere is to analyse the development of added value in the food verticals and to suggest the pertinent measures. The analyses in the framework of the VaV No. 055/05 DP-1 show that there is significant growth in inequalities in distributing value among the individual levels of the food verticals, which causes the socio-economic and environmental unsustainability in Czech agricultural primary production.

In the vertical of the production, processing and distribution of basic foodstuffs in the observed period, the distinct market power of the large retailers became greater (especially the multinational supermarket chains). They use their economic power to eliminate the small retailers and exploit the economic weakness of the agricultural primary producers, the artificially undervalued export goods through the influence of agricultural subsidies in the other EU Member States and the effect of the weakness of the developing economies in attaining an ever greater share in the added value of agricultural products.

The share of distributors and retailers in the added value grew at the expense of the fall in the share of agricultural primary production. This forced inequality, partially compensated by primary production subsidies from the national and EU public funds, needlessly and unjustifiably increases the social costs of food production. Subsidies into agricultural primary production only partial compensate what the supermarket chains appropriate through force. This is the fundamental problem of the entire common agricultural policy to date, which leaves allocation in the food verticals to the free play of market forces and does not form the institutional conditions for a more even distribution of the value within these verticals i.e. verticals deriving from agricultural primary production.

Problems of dominant market power of transnational supermarkets must be addressed at both national and international levels. At the national level, it will be necessary to re-evaluate and develop the role of trading organisations of producers and to strengthen it by the legislation of bilaterally binding contracting. However, more efficient contracting is not sufficient to manage the global challenges. At the international level, better economic governance to reduce market power depends on stronger political institutions, inclusive common agricultural policy.

The authors are aware that the questions they have placed do not fully exhaust the necessary solutions to the problems of the present Common Agricultural Policy. In spite of this is it clear that the new form of the common agricultural policy cannot prolong an increase of the claims to subsidising agriculture from public budgets both union and national. A solution must be sought in a clear outline of the institutional

conditions for more equal distribution of the value in the vertical ties, from primary production to final consumption.

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