

# The evaluation of economic situation and comparison of Czech and French agricultural enterprises

## *Vyhodnocení a srovnání ekonomické situace českých a francouzských zemědělských podniků*

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**Abstract:** The comparison of Czech and French agriculture results shows a higher intensity, productivity and profitability of French agriculture. There are just small differences in the effectiveness of the production. The Czech agricultural enterprises have been in economic distress for several years and only a low portion of them is able to modernize and increase reproduction. There is also highlighted the importance of the EU Common Agricultural Policy for the development and stabilization of French agriculture.

**Key words:** Czech and French agriculture, economic situation, gross output, net production, value added, economic result

**Abstrakt:** Srovnání výsledků českého a francouzského zemědělství ukazuje na vyšší intenzitu, produktivitu i rentabilitu francouzského zemědělství. Výrobní efektivnost vykazuje mezi ČR a Francií malé rozdíly. Zemědělské podniky ČR jsou již řadu let v ekonomických potížích a jen malá část jich je schopna modernizace a rozšíření reprodukce. Je poukázáno také na význam společné zemědělské politiky EU pro rozvoj a stabilizaci francouzského zemědělství.

**Klíčová slova:** české a francouzské zemědělství, ekonomická situace, hrubý výnos hospodaření, čistá produkce, přidaná hodnota, výsledek hospodaření

For the European policies, agricultural sector is the most important sector. It is concerned by the agricultural and the structural policies. The new European enlargement to the CEEC will increase the agricultural area by 54%, it will double the agricultural population. In this respect, it seems important to analyse the farmers' situation in different candidate countries compared to that in some member states. The purpose of this article is to contribute to this analysis by comparing the French and the Czech farmers' economic situation.

The Czech results we present come from a farm sample managed by the VÚZE (the Czech Research Institute of Agricultural Economics) and composed of farms with double entry accountancy. The 1995 results stem from an analysis we conducted in 1996 and we presented in a similar conference in Prague in 1997. The 1999 results are taken from a 386 farms weighted sample. Farms have been weighted according to their regional localisation, their legal status and their area (size in hectare) on the basis of the information available at the Czech Statistical Office. Nevertheless, we cannot completely extrapolate the farm sample to all Czech agriculture and get reliable results

because most of the family farms are not considered in the analysis (the majority of them have no accountancy or only accountancy with single entry).

The French results come from a professional farm sample managed by the Farm Accountancy Data Network office at the Ministry of Agriculture. It is a representative sample of French agriculture, composed by 7 232 farms in 1995 and 7 752 in 1999. It allows us a reliable extrapolation to the whole French agriculture. These farms represent 405 000 French professional farms.

We have to specify that in this economical analysis, we consider only the agricultural activities in farms (when it was possible) in order to compare what could be compared in farms. It means that, for instance, in case of Czech farms; we did not consider the sales of products that were not agricultural, or the exceptional activities, or the provisions and other reserves, or the purchases or the sales of assets. We take into account only the revenue and expense accounts concerning the operating activities of the farms<sup>1</sup>.

To compare the results, we have used the official average exchange rate of the Central Bank delivered by the

<sup>1</sup> Differences can still exist in the evaluation of some variables. In France, the capitalised production, the farmhouse consumption and the stocks are evaluated at market prices. In the Czech Republic, they are evaluated at cost prices. So Czech net production can be underestimated.

National Statistical Office. In 1995, one French franc equalled to 5 Czech crowns. In 1999, one French franc equalled to 5.62 Czech crowns.

These preliminary remarks do not aim at questioning the results presented here. The data we used are the best information available at that moment. These remarks just want to draw attention to the fact that the reader should better pay attention to the tendencies revealed by the figures rather to the exact value of the figures.

## FARMS WITH DIFFERENT STRUCTURES AND CONTRASTED INCOMES

The results show strong structural differences between French and Czech farms. The latter have an area 21 times bigger and labour force 38 times more important. We have nevertheless to mention that between 1995 and 1999, the Czech farms area decreased by 12% and their labour force by 32%. Such figures could indicate that the farm restructuring began. At the same time, the French farms area increased by 8% while labour force stayed more or less stable (only +2%). We have to repeat that Czech results come mainly from large agricultural companies born from previous state farms or co-operatives. These structures were characterised by huge size and paid labour force. The French results come from family professional farms with labour force based mainly on family. It explains the structural differences.

Given these differences, it has been decided to analyse the results per hectare of agricultural land. All the results per hectare showed a better economical situation in France compared to the Czech Republic. We even observed that in the Czech Republic, the economical situation worsened between 1995 and 1999 while in France, it improved (Table 1). Net production and added value per hectare were between twice and three times higher in France than in the Czech Republic. In the Czech Republic, the added value (gross production less intermediate consumption, rents and insurance) was equal to 10 560 crowns/ha in 1995. It decreased by 15% up to 1999 to reach 8 989 crowns/ha. In France, in 1995, the added value was equal to 20 273 crowns per ha. It increased by 17% up to 1999 (Table 1).

The gross farm surplus (a very well known and commonly used indicator in France equal to the added value plus subsidies less labour costs and taxes linked to the production) represents the funds (resources) that the farm has at disposal to face its past and current financial commitments and to invest for the future. In 1999, the gross farm surplus per hectare was 11 times higher in France (around 29 000 CZK/ha) than in the Czech Republic (around 2 600 CZK/ha). In 1995, it was only 8 times more. *However, if we calculate gross farm surplus (GFS) equal to the added value less taxes linked to production (it means not to consider subsidies and labour costs, which are the main differences between Czech and French farms), the French GFS was only twice higher*

Table 1. Main Czech and French agricultural results per hectare in CZK/ha

	Czech Republic		France	
	1995	1999	1995	1999
Number of farms	259	386	7 232	7 752
Total number of farms represented	–	1 860	428 716	404 203
AWU/farm	103	70	1.8	1.84
UAA in ha	1 559	1 369	60	64.7
Net production	26 637	26 809	52 230	63 163
Intermediate consumption	15 483	16 976	27 070	32 972
Farm renting	255	400	3 275	4 468
Insurance	339	444	1 612	1 911
Added value	10 560	8 989	20 273	23 812
Wages and social costs	7 564	7 533	3 251	4 322
Taxes linked to production	497	546	854	989
Subsidies	599	1 686	9 437	10 554
Gross Farm Surplus	3 098	2 597	25 605	29 055
GFS without wages and subsidies	10 063	8 444	19 419	22 823
Depreciation	3 151	3 549	7 909	9 739
Farm Income	–53	–952	17 696	19 316
Financial Revenue	238	602	175	–
Financial Costs	988	1 319	2 442	2 332
Current Income before taxation	–803	–1 669	15 429	16 984
Total costs	28 277	30 767	46 413	56 733
Total costs/Net production	1.06	1.15	0.89	0.90

Source: VUZE – French FADN; 1 FF = 5 CZK in 1995 and 5.62 CZK in 1999

than the Czech one. Subsidies are much more important in France than in the Czech Republic due to the CAP. Nevertheless, we have to mention that between 1995 and 1999, the total amount of Czech subsidies was 3 times higher.

The Czech farm income (GFS less depreciation) was near zero in 1995. It still decreased to a negative income equal to -1 000 CZK/ha. At the same time, the French farm income was around 19 000 CZK/ha in 1999, by 9% higher compared to 1995. The Czech current income before taxation<sup>2</sup> (farm income plus financial revenue less financial costs) was negative (around -1 700 CZK/ha in 1999, twice worst than in 1995). The French one was strongly positive (+17 000 CZK/ha,) and even improved between 1995 and 1999.

At the average level, on one hand, we observed profitable and viable French family farms, able to face their financial costs and their depreciation. Their economical situation even improved between 1995 and 1999. So they could modernise and renew their assets and their operating capital. On the other hand, we observed large agricultural Czech companies in deficit. They could not face their costs and so the depreciation. They were not able to modernise or to renew. Their economic situation even worsened between 1995 and 1999.

## VERY DIFFERENT PROFITABILITY AND PRODUCTIVITY

Two main reasons explain the differences between the Czech and French farm incomes per hectare. First, there are high differences in terms of net production per hectare (see above). Secondly, there are differences in terms of costs control. In the Czech Republic, the ratio of total costs divided by net production was higher than one and worsened, while it was equal to 0.9 in the French case (Table 1).

The differences in terms of net production per hectare were based on differences in productivity and production prices between the 2 countries. In 1999, Utilised Agricultural Area (UAA)/Annual Work Unit (AWU) was 80% higher in France than in the Czech Republic, even if in this country, the ratio improved by 29% between 1995 and 1999. This improvement rested on the decrease in AWU higher (-32%) than the UAA decrease (-12%) (Tables 1 and 2). We also observed the differences in terms of productivity when comparing the average yields of the main agricultural productions. In the Czech Republic, the average yields improved between 1995 and 1999 (see footnote). Nevertheless, they stayed lower (between 15 and 40%) than those observed in France. For instance, in 1999, the Czech wheat yield was equal to 4.65 t/ha, the rape seed one 2.67 t/ha, the sugar beet one 45.6 t/ha, the potatoes one 19.7 t/ha and the milk one 5 022 litres/cow. At the same time, the French average yields were respectively equal to 7.42 t/ha for wheat, 3.27 t/ha for rape seed, 74.5 t/ha for sugar beet, 29.1 t/ha for potatoes and 5 925 litres/cow for the milk<sup>3</sup>.

We must keep in mind the very bad financial situation of the Czech farms, which even worsened between 1995 and 1999 (Table 1). Such a situation constrained farmers to save money. Given that, for instance, farmers used less inputs like fertilisers, chemicals that explained the lower yields compared to the French farmers.

The net production/AWU was still 4.3 higher in France than in the Czech Republic (Table 2). It was based on differences in productivity as well as differences in the level of production prices. Since 1995, Czech and French production prices have been converging all the time. It means that the Czech prices have been coming close to the French (in fact the European) production prices. Anyway, in 1999, despite this convergence, the Czech agricultural prices for rape seed were 25% lower, 32% lower for wheat and 50% lower for milk compared to the French production prices of these products. There was

Table 2. Economic Czech and French Ratio

	Czech Republic		France	
	1995	1999	1995	1999
UAA/AWU in CZK	15.14	19.48	33.33	35.16
Net Production/AWU	403 223	514 652	1 727 325	2 221 010
Added Value/Net Production	0.39	0.33	0.39	0.38
Subsidies/Net Production	0.02	0.06	0.18	0.17
Depreciation/GFS	1.03	1.37	0.31	0.34
Financial Costs/GFS	0.32	0.51	0.1	0.08

Source: VUZE – French FADN; 1 FF = 5 CZK in 1995 and 5.62 CZK in 1999

<sup>2</sup> This indicator is more or less equal to the farm income for current activities we find in Czech accountancy, except the fact it does not include reserves, provisions, purchases and sales of assets.

<sup>3</sup> In 1995, the Czech average yields were respectively equal to 4.66 t/ha for wheat, 2.62 t/ha for rape seed, 39.9 t/ha for sugar beet, 17.1 t/ha for potatoes and 4 200 litres/cow for milk; the French average yields were respectively equal to 6.61 t/ha for wheat, 3.2 t/ha for rape seed, 66.3 t/ha for sugar beet, 33.3 t/ha for potatoes and 5 570 litres/cow for milk.

Table 3. Income and Cost generated by one unit of production

	Czech Republic		France	
	1995	1999	1995	1999
Production	1	1	1	1
Intermediate Consumption	0.58	0.63	0.52	0.52
Rents	0.01	0.01	0.06	0.07
Insurance	0.01	0.02	0.03	0.03
Wages and social costs	0.28	0.28	0.06	0.07
Taxes linked to the production	0.02	0.02	0.02	0.02
Financial costs	0.04	0.05	0.05	0.04
Depreciation	0.12	0.13	0.15	0.15
Total	1.06	1.15	0.89	0.9
Generated income	-0.06	-0.15	0.11	0.10

Source: VUZE – French FADN; 1 FF = 5 CZK in 1995 and 5.62 CZK in 1999

one exception for potatoes for which the French price was 40% lower than the Czech price<sup>4</sup>.

The other reason that explained such strong differences in terms of farm income was the costs control. We can illustrate the bad costs control by the fact that one unit (considered in value) produced in Czech farms generated deficit that even worsened between 1995 and 1999 (2.5 times higher). At the same time, one unit in value produced by French farms generated profit equal to 0.1. Czech farms, compared to French farms over-used intermediate consumption, labour force and under-used depreciation. They did not invest (Table 3).

The costs per hectare were higher in France than in the Czech Republic, except for wages and more marginally for energy (Table 4). The total costs per hectare equalled 56 733 crowns/ha in France and to 30 767 crowns per hectare in the Czech Republic. Intermediate consumption equalled 33 000 crowns per hectare in France and 17 000 crowns per hectare in the Czech Republic. Labour costs equalled 4 322 CZK/ha in France compared to 7 533 CZK/ha in the Czech Republic.

The agricultural enterprises such as co-operatives, limited or joint stock companies, traditionally rent the fixed assets (land, buildings). Czech experts say that more than 90% of land is managed on the rental basis. It was thus surprising to observe that the rent costs were not high and their weight in the costs structure was low (1.3% of the costs for an average value of 400 crowns per hectare). In France, where the rents are traditionally not so widespread, rents costs covered in 1999 7.9% of the total costs and equalled 4 468 CZK per hectare. We could explain this by the fact that rent prices are generally very low in the Czech Republic. But we explain such a result

above all by the fact that usually Czech rents are not paid or are paid in kind (and so in this case, these costs are registered in another account). Owners had no other choice, had no means to press farmers or to prefer keeping their job rather than to ask for rent in a bad financial situation that could lead to bankruptcy.

It is interesting to note that costs structure did not change so much between 1995 and 1999. In the Czech Republic, we just observed that the part of labour decreased while the percentage of services costs increased. In France, the percentage of service costs also increased while the part of intermediate consumption decreased. Then, on one hand, we also observed that intermediate consumption had approximately the same weight in French and in Czech farms. On the other hand, we noted that in the Czech Republic, labour costs were much more important, depreciation and rents much lower in the costs structure than in France. This showed again the structural differences between the Czech and the French farms and also the financial weaknesses of the Czech farms, as we mentioned previously.

The better financial situation of the French farms (a profitable income) gave them the ability to buy inputs (more important consumption of inputs such as fertilisers, chemicals, and feeding stuffs), to use external services and to invest. On the contrary, the deficit income of the Czech farms explained their low level of costs per hectare, especially their low level of inputs per hectare that led to lower yields compared to France. The generated income allowed French farms to substitute labour by intermediate consumption, equipment and machinery. In the Czech Republic, it was difficult to substitute labour for two reasons. First, it was difficult to dismiss workers

<sup>4</sup> In 1999, in the Czech Republic, production prices were around 327 crowns for 100 kg of wheat, 535 crowns for 100 kg of rapeseed, 375 crowns for potatoes, 7.25 crowns for one litre of quality milk. In France, these prices were respectively equal to 433 crowns for wheat, 680 crowns for rapeseed, 236 crowns for potatoes and 10.68 for milk. In 1995, in the Czech Republic, these figures were respectively equal to 280 crowns for wheat, 550 crowns for rapeseed, 800 crowns for potatoes and 6.48 crowns for milk while in France they were equal to 400 crowns for wheat, 700 crowns for rapeseed, 600 crowns for potatoes and 9.6 crowns for milk.

Table 4. Costs per ha and costs structure

	Czech Republic				France			
	1995		1999		1995		1999	
	CZK	%	CZK	%	CZK	%	CZK	%
<i>Intermediate consumptions</i>	15 483	54.7	16 976	55.2	27 070	58.3	32 972	58.1
Inputs	10 210	36.1	10 872	35.4	17 129	36.9	19 791	34.9
Seeds and plants	981	3.5	1 045	3.4	1 950	4.2	2 467	4.3
Fertilisers	1 047	3.7	1 203	3.9	3 245	7	3 793	6.7
Chemicals	896	3.2	1 233	4	2 858	6.2	3 507	6.2
Feeding stuffs	3 187	11.3	3 606	11.7	5 864	12.6	6 160	10.8
Combust, fuel and lubricants	1 714	6.0	1 819	5.9	1 108	2.4	1 512	2.7
Other inputs	2 386	8.4	1 965	6.4	2 105	4	2 352	4.1
Water, gas, electricity	1 096	3.9	1 284	4.2	1 051	2.3	1 017	1.8
Services	2 849	10	3 727	12.1	3 614	13	10 020	17.7
Other intermediate consumption	1 328	4.7	1 094	3.6	2 883	6.2	2 144	3.8
<i>Rents</i>	255	0.9	400	1.3	3 275	7	4 468	7.9
<i>Insurance</i>	339	1.2	444	1.4	1 612	3.5	1 911	3.4
<i>Wages and social costs</i>	7 564	26.7	7 533	24.5	3 251	7	4 322	7.6
<i>Taxes linked to production</i>	497	1.8	546	1.8	854	1.9	989	1.7
<i>Financial costs</i>	988	3.5	1 319	4.3	2 442	5.3	2 332	4.1
<i>Depreciation</i>	3 151	11.1	3 549	11.5	7 909	17	9 739	17.2
Total	28 279	100	30 767	100	46 414	100	56 733	100
Total without wages and social costs	20 715		23 234		43 163			

Source: VUZE – French FADN; 1 FF = 5 CZK in 1995 and 5.62 CZK in 1999

in structure where workers were also owners. Secondly, even if machinery and equipment were generally very old and completely depreciated and needed to be replaced, new ones were too expensive.

#### A SIMILAR PRODUCTIVE EFFICIENCY IN A VERY DIFFERENT ECONOMIC CONTEXT

According to all what we showed above, Czech farms seemed to be less profitable and less productive than French farms. It was thus interesting to note that they had almost the same productive efficiency (added value/net production, see Table 2). Broadly speaking, it means that for a given unit of net production, French and Czech farms generated approximately the same added value. Nevertheless, we observed deterioration for the Czech farms between 1995 and 1999 that led to 15% of difference in productive efficiency in 1999 between Czech and French farms. In 1995, such a difference did not exist.

It was also interesting to note that, given the production prices in each country, in 1999, the added value per hectare was equivalent to 2.7 t of wheat and 1 240 litres of milk in the Czech Republic. In France, the added value

per hectare was equivalent to 5.5 t of wheat and 2 230 litres of milk. In 1995, these figures were respectively 3.8 t and 1 630 litres for the Czech Republic and 4.8 t and 2 560 litres for France.

In a similar way, given inputs prices in each country in 1999, we can also say that the added value per hectare allowed to buy 4.7 t of sulphate ammoniac, 2.2 t of super-phosphate in grains, 1.8 t of potassium chloride in the Czech Republic. In France, this added value per hectare allowed to buy respectively 23.3 t of sulphate ammoniac, 24.3 t of super-phosphate in grains, 18.3 t of potassium chloride. Such figures showed that, as in 1995<sup>5</sup>, the price scissors were more unfavourable to Czech farmers than to French farmers.

#### CONCLUSION

Our data analysis seemed to show that French farms were more profitable and productive than Czech agricultural enterprises. In average, their net production was twice higher and they got a profit as the Czech ones released a deficit. Indeed, the French farms benefited from the CAP and so from the European subsidies that repre-

<sup>5</sup> In 1995, with the inputs prices of the year, the added value per hectare allowed to buy in the Czech Republic 8.4 t of sulphate ammoniac, 3.1 t of super-phosphate 18% and 2.8 t of potassium chloride. For France, these figures respectively equalled 21.1, 21.4, and 18.1.

sented 62% of their income. But even if we withdrew the subsidies in our calculation, these farms still generated positive income.

It was nevertheless interesting to note that the productive efficiency (added value divided by net production) was similar in the 2 countries (38% in the Czech Republic and 33% in France).

We have also to remind that our analysis concerned 1999. This year was very hard for all farmers, were they European members or not, due to unfavourable production prices. But it is true that the CAP measures allowed for the French farms a better control of consequences of the world prices fluctuations. So the impacts were more controlled and so a bit lower for European farmers than for Czech farmers.

It appears clearly that the Czech agricultural enterprises are in financial stress and are not able to modernise and even not to insure their own reproduction. It could be a real problem because they usually produce more than 60% of the agricultural products. Such a result questions the agricultural policy choices.

Without more detailed information on individual or family farms, it is difficult to conclude about the real situation of the Czech agriculture, above all because such farms seem to be more and more important. So our analysis could be completed by first including such farms (the following step of our research) and secondly by focusing on agricultural enterprises financial stress (In 1999, Czech agricultural enterprises were deep in debt. Their debts represented 55% of the liabilities, compared to 45% in France). For this topic, we could take advantage of French experience concerning farmers in financial stress where many studies were realised in the 80ies to find solution to this problem.

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