

# Firm condition of chosen agricultural enterprises in mountain and sub-mountain areas in South Bohemia

*Firemní kondice vybraných podnikatelských subjektů v zemědělství v horských a podhorských oblastech Jihočeského kraje*

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**Abstract:** The economic evaluation of agricultural enterprises in mountain and sub-mountain areas in South Bohemia results from a financial analysis. Financial ratios enable to identify and measure the state and development of individual economic aspects of these enterprises and their synthesis through solvency model makes financial health possible to be elicited.

**Key words:** farming, mountain and sub-mountain areas, solvency model, financial health

**Abstrakt:** Hodnocení ekonomiky podnikatelských subjektů v zemědělství v horských a podhorských oblastech Jihočeského kraje vychází z finanční analýzy. Finanční ukazatele umožňují identifikovat a posoudit stav a vývoj dílčích aspektů hospodaření těchto podnikatelských subjektů a jejich syntéza prostřednictvím bonitního modelu umožňuje diagnostikovat finanční zdraví.

**Klíčová slova:** hospodaření, horské a podhorské oblasti, bonitní model, finanční zdraví

## INTRODUCTION

Economic structure in mountain and sub-mountain areas concerning the range of economic activities is not much diversified. The branches of primary sector predominate, especially agriculture. It is set partly by tradition, partly by objective conditions as low density of population, inappropriate infrastructure, the absence of settlements being the poles of growth. All the facts mentioned above are both the cause and consequence of definite persistence, which presents an obstacle to a flexible response to changed conditions impacting on economic results of agricultural enterprises.

This report is supposed to be a next step in the economic evaluation of the enterprises farming in disadvantaged areas. The analysis of economic results in chosen agricultural enterprises in mountain and sub-mountain areas of South Bohemia is followed by a careful consideration of the financial health of these enterprises.

## MATERIAL AND METHODS

Questionnaires submitted to 25 enterprises of the regions Český Krumlov (10), Prachatice (8) and České Budějovice (7) served as a source of data being the starting point of the economic analysis of the enterprises in mountain and sub-mountain areas. Considering the legal forms, agricultural co-operatives shared 60%, while busi-

ness companies – limited liability companies 28% and stock companies 12%. Not all the subjects became a basis for further analyses, mostly because of incomplete or unreliable data. In the end, only enterprises farming in mountain and some other areas were analysed. Given the percentage share, it concerns 11.07% of agricultural land of the region Český Krumlov, 9.90% of Prachatice and 6.34% of České Budějovice. All these regions together with the others in South Bohemia are classified as less favoured areas (LFA).

On the basis of data collected from accounting statements, mainly from shortened balance sheets and from income statements, the enterprise efficiency was studied through the analysis of selected financial ratios (Neumaierová 2002). The results were included into the solvency model of firm condition (Grünwald 2001).

The results were elaborated in the period of the years 1999–2001.

## RESULTS AND DISCUSSION

The end of the twentieth century is connected with the clear definition of less favoured areas. Since that, permanent sustaining of farming in these areas has been set as a common goal (Marková 1996, Kvapilík 1996, Trávníček 2001).

The way of supporting farmers through area grants, extensive or ecological programmes or their combination

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depends on the consensus (Doucha 1998). Their income is mainly influenced by land price. Together with rising price of land, the loss per one hectare goes down. The connection between regress equation and price of land (Střeleček 1997) should thus become the basis for the calculation of grants compensating more difficult farming conditions.

Favourable economic output in 2000 resulted into the consideration if it meant only an exceptional result or if a new trend was set. A better economic output in marginal areas was qualified as stabilised (except 1999). The impact of taxes on the economic output in 2000 pointed at the fact that the tax rate was higher in marginal areas than in production areas (Střeleček 2002), mainly thanks to unequal economic results of enterprises in these areas. Also Jánký and Novák affirmed improvement of financial situation of agricultural co-operatives in marginal areas in 1998–2000, especially in the field of liquidity, financial leverage and activity ratios. Even liquidity of first and second degrees was better in marginal areas than in those of production (Jánký 2002). The positive economic output was achieved partly by savings in material and wage costs (Leitmanová 1999). Another positive fact of this period can be found in gradual covering of the liabilities from transformation (Report 2000). However, the results in plant production differed from livestock production. In general, the situation in cattle breeding is regarded as the most problematic.

General conditions such as production volume, employment rate, the countryside, the quality of organic and inorganic sources form the way of farming. Besides, Central European agriculture using the results of technological development makes the production volume higher and this meets the stagnated demand. For agriculture, it leads to unfavourable price and cost development. Intensity decreases, it means intense processes (e.g. milk cows) lose their importance, on the other hand, extensive processes (e.g. dry cows) widen. In line with this fact, “unused” areas extend as well, e.i. forest areas spread out. It happens when the market realises its influence without state restriction (Heissenhuber 2003).

A suitable systematic policy of state grants (Střeleček 2003) can help Czech agriculture to become competitive. The state should support mainly the development of agriculture specialised at a more extensive agricultural production and at services focused on environment conservation and further ecological activities.

The analysed enterprises in mountain and sub-mountain areas of South Bohemia proved in the period of the years 1999–2001 that, in spite of rising total sales, in average the positive economic output dropped. Partly it can be explained through average values of chosen financial ratios and their development.

Profit itself cannot be the only suitable indicator the firm analysis is based on unless it is as high that the return on the capital invested by owners would be higher than alternative costs of their equity capital (Živělová 2001).

Common investments of agricultural enterprises would be a possible way of solving this problem. In Austria,

Table 1. Liquidity ratios

Indicator	1999	2000	2001
Current ratio	3.45	3.75	3.94
Quick ratio (Acid test)	1.75	1.89	1.77
Cash ratio	0.47	0.39	0.43

Source: Own calculation

machinery purchase, farm buildings, common farming of agricultural enterprises was realised with a really good results (Binder 2000).

The current ratio is defined as a proportion of total volume of current assets to current liabilities in total including current bank credits. Quick ratio is defined as a proportion of current assets without inventories to current liabilities in total. These liquidity ratios are followed by the cash ratio defined as the proportion of current financial assets to current liabilities in total (Table 1).

Level and development of liquidity in chosen enterprises can be evaluated as really good. They fulfil the generally required criteria of current ratio – the rate 2 : 1 and that of quick ratio – the rate 1 : 1 within the evaluation period (Grünwald, Holečková 1996). The increase of current ratio when the volume of current assets decreased (by 5.5%) was effected by the marked reduction in current liability including current bank credits (by 17.3%). Considering aspects of quick ratio, this reduction in current foreign capital was compensated by inventories increase in current assets so the level of quick ratio stagnated. On the other hand, the marked reduction of current financial assets (by 24.3%) was reflected in reduction of cash ratio, which characterises solvency of the analysed enterprises.

Within the whole evaluated period, only 18% of agricultural enterprises did not reach the required level of current and quick ratios. More than one third of the enterprises showed a really low level of cash ratio.

The Green Report (Report 1999, 2000, 2001) observes liquidity as cash (the proportion of cash to current liabilities), current (the proportion of cash and short-term receivables to current liabilities) and total (the proportion of current assets to current liabilities and short-term bank credits). Within the observed time period of 1999–2001, all types of liquidity showed a positive development as shown in the following data: 1 CZK of current liability corresponds to 0.21 CZK of cash and 0.74 CZK short-term receivables in 1999 and in 2001 the numbers were 0.35 CZK and 0.88 CZK. The volume of current assets in 1999 was 2.68 times higher than the volume of current liabilities and short-term bank credits, in 2001 3.33 times.

Velocity of inventories turnover is defined as a proportion of sales to average inventories state and, analogically, velocity of receivables turnover as the proportion of sales to average accounts receivables, velocity of fixed assets turnover as a proportion of sales to average fixed assets and velocity of total assets turnover as a proportion of sales to average property of the enterprise. The

Table 2. Activity ratios

Indicator	1999	2000	2001
Velocity of inventories turnover (in turnings)	2.37	2.57	2.72
Time of inventories turnover (in days)	152	140	132
Velocity of receivables turnover (in turnings)	5.56	5.06	5.17
Time of receivables turnover (in days)	65	71	70
Velocity of fixed assets turnover (in turnings)	0.64	0.64	0.68
Time of fixed assets turnover (in days)	561	562	533
Velocity of total assets turnover (in turnings)	0.42	0.43	0.46
Time of total assets turnover (in days)	848	845	789

Source: Own calculation

indicator of turnover period represents the reciprocal proportions of the data mentioned above in days (Table 2).

The level of activity ratios in the chosen enterprises reflects the specifics of agricultural activities where most of the production processes are long-term ones.

The inventories turnover period does not usually get over the maximum time mentioned in literature, i.e. 180 days, and in the evaluated period, it develops positively, it is even shortened by 20 days. It means that the inventories are used in a more intensive way. The increase of sales (14.8%) impacted positively on the favourable development of inventory turnover keeping stabilised inventories.

The increase of sales also effected the fixed assets turnover and enterprise property although the development is not as unambiguous as with inventory turnover. The marked increase of this property in 2000 and 2001 has been followed by a slight decline.

A negative development was recorded in receivables turnover, the average collection period of the evaluation lengthened by 5 days. So the time when the customers block finances becomes longer which is a very unfavourable situation for agricultural enterprises.

However, there are marked differences in activity ratios level among the individual enterprises in all years of this evaluation which shows great reserves in adequacy of single parts of enterprise property to the range of business activities in some chosen enterprises.

The Green Report concerning efficiency of total assets (the proportion of sales to total assets), fixed assets (the proportion of sales to fixed assets), and of current assets (the proportion of sales to current assets) and, further, the reproduction ability of assets (the proportion of total assets to economic output and depreciation), stated a positive development for the sales increased in comparison with total assets (from 47.1% to 51.3%), with fixed

assets (from 74% to 84.3%) and with current assets (from 133.7% to 138.6%) as well in the years 1999 and 2000 (Report 1999, 2000). The reproduction ability of assets declined from 18.7 to 11.3 years. In 2001, the activity of total assets (the proportion of sales to total assets) and activity of fixed assets (the proportion of sales to fixed assets) in turnings was newly evaluated. It was calculated back to 2000. It went up when the total assets turnover increased from 0.51 to 0.55 and fixed assets turnover from 0.84 to 0.92.

The numbers gained from searching the chosen agricultural enterprises in mountain and sub-mountain areas in South Bohemia are worse which is partly effected by less favourable conditions of farming in these areas.

Debt ratio is defined as a proportion of foreign capital to total assets. The rate of financial independence as a proportion of equity capital to total assets is an additional indicator of debt ratio. The indicator of interest coverage is defined as the proportion of the sum of after-tax profit (net profit) and cost interest to cost interest (Table 3).

Although it is always difficult to state an optimum debt ratio, the average rate used abroad ranges from 30 to 50%. The chosen enterprises are getting over the average during all the period, they show a high debt ratio and they can be considered to be risky. It works against the economical and financial stability of the enterprises. One of the positive phenomena is the debt ratio decrease in this period, mostly in 2000. Decreasing profitability of invested sources results into low and even decreasing interest coverage, which means inadequate average debt ratio level of chosen agricultural enterprises.

The differences in debt ratio of the individual enterprises are very significant, they range from 6–7% up to almost 100%. Two enterprises even show the negative equity capital as a result of high-unpaid loss in the last years.

The cause of higher debt ratio in the enterprises is a high share of long-term liabilities, mainly those from transformation representing about two thirds of the foreign capital in general. Gradual covering of these liabilities from transformation is reflected in the declining debt ratio by 10% in the observed period.

In the Green Reports (Report 1999, 2000, 2001), the attention was paid not only to the debt ratio but to credit debt ratio (the proportion of total credits to equity capital) and debt degree (the proportion of foreign capital to equity capital), too. A positive development can be stated even in these financial leverage ratios, debt ratio decreased from 51.8% in 1999 to 44.1% in 2001 followed by

Table 3. Financial leverage ratios

Indicator	1999	2000	2001
Debt ratio (in %)	65.33	56.56	55.66
Rate of financial independence (in %)	34.67	43.44	44.34
Interest coverage	3.96	3.57	1.34

Source: Own calculation

Table 4. Profitability ratios

Indicator	1999	2000	2001
Return on invested capital (in %)	4.89	2.21	0.29
Return on equity capital (in %)	15.81	5.24	0.66
Interest rate (in %)	17.22	10.62	11.15

Source: Own calculation

credit debt ratio, from 24.8% to 17.5%, and debt degree, from 1.1 to 0.8.

Also in this case, debt ratio stated by the search of chosen agricultural enterprises in mountain and sub-mountain areas in South Bohemia is higher although a positive tendency can be noticed here as well.

Profitability was expressed through after-tax profit (net profit) related either to the total invested capital or only to equity capital (Table 4).

Return on invested sources showing quite a good rate in the starting year of the evaluated period was permanently decreasing down to the limit of profitable farming in 2001. In line with the increasing sales (within the evaluated period they increased by 14.8%), a rapidly quicker cost increase affects the development of economic output, after-tax profit (net profit) decrease in the period by 93.7%. This decrease impacted on the negative development of profitability amplified by the increase of invested sources in 2000.

The decrease of profitability can be more or less watched in all evaluated enterprises, the share of unprofitable enterprises rises. In 1999, 30% of the agricultural enterprises showed loss while in 2001 it was one half of the enterprises.

A growing disproportion between return on equity capital and an average interest rate also shows inadequacy in using foreign sources by agricultural enterprises in set conditions, above all in 2000 and 2001.

The volume of provided subsidies and grants had a positive impact on the fact that profitability of evaluated

enterprises farming in mountain and sub-mountain areas achieved positive results in the mentioned period. Average grants per 1 ha of the farmland in 1999–2001 made 2 959 CZK, 3 248 CZK and 3 039 CZK. Without them, only one enterprise would achieve a positive economic output each year.

In the Green Reports (Report 1999, 2000, 2001), the return on total capital (the proportion of economic output to total capital) and return on equity capital (the proportion of economic output to equity capital) were searched but they developed unambiguously. After a positive development in 1999 and 2000, profitability decreased again although not into negative numbers.

In the chosen agricultural enterprises farming in mountain and sub-mountain areas in South Bohemia, the development was favourable in 1999 and 2000, mainly in 1999, but in 2001 the trend reversed and unfortunately went on.

The way of using the financial ratios depends on the contractual relations of market subjects of both supply and demand, on the complex relations between producers and customers. If agriculture and its enterprises produce positive externalities and public goods, it is difficult to identify market relations between an unambiguous producer and mainly an unambiguous customer which is clear from the accounting data and results of financial analysis viewpoint.

To compare the results found out from the search of the agricultural enterprises in mountain and sub-mountain areas in South Bohemia more properly with the data of the Czech Republic in total, it is advisable to use data concerning potato- and oat-growing and mountain areas as they were differentiated in the Green Reports in 1999 and 2000, respectively mountain and sub-mountain areas from the Green Report in 2001.

From the comparison level and development of chosen financial ratios concerning the average in the Czech Republic with the enterprises of less favourable areas in South Bohemia, there can be seen a comparable productivity of total property, higher debt ratio and credit debt ratio as well, however, of positive development of debt

Table 5. Chosen financial ratios of agricultural enterprises in the Czech Republic according to areas (in %)

Indicator	Production area					
	potato- and oat-growing + mountain				mountain + sub-mountain	
	1999		2000		2001	
	Czech Republic	South Bohemia	Czech Republic	South Bohemia	Czech Republic	South Bohemia
Productivity of total assets	45.4	42.5	47.9	42.6	0.43*	0.46*
Debt ratio	56.6	69.1	51.9	57.9	54.21	56.12
Credit debt ratio	21.5	36.3	19.2	22.3	19.02	19.88
Return on invested capital	-0.6	4.9	1.9	2.2	0.86	0.29
Reproduction ability of assets (years)	15.3	7.1	11.1	9.0	11.91	10.57

\* total assets turnover

Source: Reports (1999, 2000, 2001), own calculation

Table 6. Agricultural enterprises and their financial health (in %)

Financial health	1999	2000	2001
Ailment	40	18	37
Poor health	10	0	18
Good health	30	55	27
Strong health	20	27	18

Source: Own calculation

ratio and credit debt ratio in the years 1999–2001. The better starting level of return on total capital and reproduction ability of assets has a negative development (Table 5).

The test of the financial health of the chosen enterprises in the mentioned period through solvency model (Grünwald 2001), which compares acceptable values of chosen financial ratios of profitability, liquidity and financial stability with searched values of these indicators, only validates partial results of the analysis of financial ratios concerning liquidity, activity, financial leverage and profitability. The weakest parts of financial stability in evaluated enterprises are the permanently decreasing return on invested sources and disproportionately high debt ratio. It also confirms that aggravation of the average financial stability of these enterprises is permanent and some positive results in 2000 were only exceptional. The average financial health gradually shifts from the phase of good health to the phase of worse financial health. About 40% of enterprises show serious financial problems.

The index of solvency and the results of financial analyses following development of financial health in chosen agricultural enterprises of mountain and sub-mountain areas in South Bohemia can be observed (Table 6).

## CONCLUSION

What is the perspective of mountain and sub-mountain areas? On one side, mainly tourism and agriculture (organic) and activities connected with it lead to forming new firms which is the real chance for these areas. On the other side, the distance from shops, schools, hospitals is supposed to be unchangeable which is not very helpful for rural development. An active approach is necessary for keeping this countryside out of closing because of non-cultural vestige. This means, at least in the context of positive externalities, to let operate the “visible hand of state”, respectively of another institution or institute, because to let the free hand of market to operate and to apply the market principles at this field in not realistic in the impending time horizon.

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