Issues of competitiveness of the present agriculture

Otázky konkurenceschopnosti dnešního zemědělství

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Abstract: The paper deals with the crucial phenomena of changes of the entrepreneurial environment of agriculture caused by the globalisation processes in the agrarian sector and their connection with the criteria of competitiveness of the present agricultural enterprises. It examines the influence of forming agribusiness and the demand driven terms of commodity chains functioning on the position of agricultural companies and the directly related segments in the field of the processing of agricultural products from the perspective of achieving competitive advantage. In this connection, the methodological approach to competitiveness is discussed according to the horizontal level, i.e. the particular stage of production or processing of the final product, and the vertical level, i.e. the interconnection of the individual stages of the vertical and their share in the value added in the final product as a prerequisite of the successful participation in forming competitiveness.

Key words: agricultural enterprise, agribusiness, competitiveness, economic costs, commodity chain

Abstrakt: Příspěvek se zabývá klíčovými projevy změn podnikatelského prostředí v zemědělství, vyvolanými globalizačními procesy v agrárním sektoru, a jejich působením na kritéria konkurenceschopnosti současných zemědělských podniků. Zkoumá vliv formování agrobyznysu a poptávkově determinovaného chování komoditních řetězců na postavení zemědělských podniků a přímo navazujících zpracovatelských podniků z hlediska tvorby a realizace konkurenční výhody. V této souvislosti je diskutováno metodologické pojetí konkurenceschopnosti zemědělských podniků podle horizontálního přístupu, tj. odděleného hodnocení jednotlivých článků komoditního řetězce, a podle vertikálního přístupu respektujícího propojení jednotlivých fází v rámci vertikály, a jejich podíly na tvorbě přidané hodnoty ve finálním produktu jako podmínky úspěšné participace utváření předpokladů konkurenceschopnosti.

Klíčová slova: zemědělský podnik, agrobyznys, konkurenceschopnost, ekonomické náklady, komoditní řetězec

Czech agriculture economic results for the last period can be used as a source for a range of attitudes concerning the benefits and risks of the membership in the European Union. However, they can also be an opportunity to consider to what extent we are able to take over the existing rules and use the conditions imposed by directives of the Community and to what extent we are able to actively assess the situation of the world agrarian markets and to adequately respond to the development of the economic environment in broader international contexts. Nowadays, we have the opportunity to see the positives and negatives of the common market and its regulation in practice and know the options for choosing suitable tools and methods of solutions reflecting not only specifics of the individual EU member countries but responding to the main tendencies of the world agrarian sector development. Every day, we can see that significant regional and structural differences are still hidden behind the aggregated data about the average economic performance of the agrarian sector of the EU and that different approach and priorities for solutions to individual issues can be chosen, provided that the issues have been identified and assessed in an objective manner.

This is because the economic development in both old and new member countries is ever more significantly influenced by external influences and processes related to the changes in the world economy that affect agriculture as well as the other economic

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sectors. These influences become new impulses determining the direction and dynamics of the development of the economic environment; if we intend to preserve or improve our competitive strength, it is necessary to adequately respond to them. The most significant processes currently influencing the world economy and, to a large extent, all civilization, are undoubtedly *globalization processes.* Although they penetrate the entire structure of society, they are primarily perceived through changes in economy and individual sectors thereof.

It is thus logical that the effects of globalization processes are reflected in the changes of the entire system of the production, processing and distribution of foodstuffs. They change the criteria of the competitive strength of the agriculture and the entire foodstuff economy.

The contemporary agriculture is far from being an enclosed autonomous system; not only due to the acceptance of its role in the sustainable development of society, but exactly due to the changes in the position of agricultural production within the foodstuff and other economy based upon agricultural raw materials all over the world. It is this "production" function where the specialization of primary agricultural production into sectors is quickly overcome that generates the starting point for further prosperous subsistence of agricultural enterprise in the contemporary entrepreneurial environment.

REVIEW OF LITERATURE

The process of expanding the agrarian market without significant barriers brings about many changes. The existing knowledge of economists dealing with the development of agribusiness in American, Australian and European conditions (e.g. Cramer, Jensen 1994; Goldberg 1998; Saxovsky, Duncan 1998; Boehlje et al. 1999, 2002; Sonka 1999; Connor 2003 etc.) as well as the results of our research into the conditions of transitive economic systems such as the Czech Republic (Bečvářová 2005a, b, 2007; Bečvářová, Vinohradský 2006; Tomšík, Rosochatecká 2007) can be generalized in the following fields of arguments:

– *expansion to bigger markets* supports the differentiation of products and causes regional transfers of production capacities and the growth of production with the most efficient entities and thereby accelerates specialization and the related possibilities to achieve savings from large-scale production; at the same time, the potential and recoverability of utilized innovations increase;
– *increased competition* on larger markets supports and accelerates a better allocation of production factors towards (the most) efficient activities and entities; this fact also creates better starting points for the increase of competitive strength on the world market;
– *larger common market and increasing competition* require but also facilitate a *faster technical and scientific development,* the development of new products, processes, technologies and procedures through the common (internationally linked) research and its application in practice in all national economic systems connected to this market.

Asked to *define competition in agrarian sector*, most economists will enlist the conditions for perfect competition, it means:

– freedom of entry and exit to and from the industry,
– many producers and consumers, all of whom are individually price takers rather than price setters;
– freedom of information (if not prefect information);
– homogenous products.

Lay people, on the other hand, will probably speak about races, conflicts, competitions (winner takes all), survival of the fittest, laws of the jungle, brute strength etc.

A more sophisticated economic response might well include (e.g. Goldberg 1998; Harvey 2005):

(1) the economic concept of *pure profits* – returns to the factors of production over and above their opportunity costs, which will (so long as there are no barriers to the entry into the industry) attract others into the profitable business, increasing supplies and driving down prices until these pure or excess profits are eliminated;
(2) the associated concept of *normal profits* – those which are equal to the opportunity costs of the production factors involved, providing just enough of return to persuade those involved to stay in this business rather than moving to somewhere else – which are the driving force of competition and the economic system – as the ways by which people can make their living.

The processes of competition ensuring that pure profits cannot persist anywhere in the system since the existence of pure profits will attract others into the sector or industry, competing away any additional profits over and above those necessary to cover the actual and opportunity costs of production and marketing (Boehlje et al. 2002; Connor 2003)

If we employ the definition of competition reflecting a certain economic system as the *ability to achieve results corresponding to the aims of the system and*

the dynamics thereof in a competitive environment, it is clear that a prerequisite for achieving unbiased aims, including the selection of criteria for the evaluation of the extent to which they were achieved, is the knowledge of the range of factors determining their fulfilment.

To assess the *competitiveness of agricultural enterprises*, we may choose *at least two approaches* related to the definition of the level of the economic system, the qualities (i.e. competitiveness) and behaviour of which should be assessed, which fact is related to the choice of the level of differentiation and examination criteria.

MATERIAL AND METHODS

From the perspective of method and methodology, we may choose an approach based on either (1) inter-company comparison at the *horizontal level* of the particular stage of production or processing of the final product or (2) prerequisites for participation in the *creation of added value in the final product*, i.e. from the perspective of successful participation of a company in the appropriate stage of the foodstuff vertical.

The paper deals with the crucial phenomena of changes caused by the globalisation processes in the agrarian sector and their consequences for achieving competitiveness of the present agricultural enterprises. The influence of shaping agribusiness on the position of agricultural companies and directly related segments in the field of the processing of agricultural products from the perspective of achieving competitive advantage is examined. Arguments used in the work are based on both the relevant theories and certain findings of the research works carried out in the agrarian sector.

RESULTS AND DISCUSSION

The principle of the latter-day agricultural enterprise competitiveness

The analysis of *competitiveness at the horizontal level* is based upon the inter-company comparison of the agricultural enterprises results differentiation. This approach is still used more often in the official statistics and documents and its methodology is more elaborated.

In accordance with the *horizontal approach* to analyses, it is especially the structure of commodities and their costs parameters confronted with the level of market prices utilised. The main task of evaluation deals with the supply conditions, related to the criteria, factors and conditions of the development of the financial and economic efficiency of an enterprise that allow them to directly assess the level of competitiveness of a company and the significant context of its development, especially through the inter-company comparison at the horizontal level within the agricultural sector.

Thus, we could measure the opportunity costs of the domestic resources (land, labour, and capital) used in the production of a commodity per unit of *value added* measured at border prices (the unprotected and unsupported prices), where value added is the difference between the sale price of the commodity and the cost per unit of the inputs used in its production.

This ratio is known as the *Domestic Resource Cost* (DRC)[1].

So long as this ratio is less than one, then the production will be capable of generating a positive return over and above opportunity costs to the local or domestic resources being used – i.e. capable of generating a pure or excess profit.

In a system of *perfectly competitive markets*, all DRCs would be equal to one – no pure or excess profit opportunities anywhere in the system.

More generally, sectors with DRCs bigger than one would be expected to grow (to be competitive), while those with DRCs less than one would be expected to decline (be uncompetitive) unless they can improve their productivity (or improve the value of their product by adjusting the quality to match consumers' willingness to pay.

In practice, this approach is hindered by:

- the measure of *border prices*, which depends on the exchange rates used and the extent to which the current world prices themselves are competitive (undistorted by other protective measures elsewhere in the world);
- the measure of the *opportunity costs* of the domestic resources used – also known as their *shadow prices* – the returns these resources would be able to earn elsewhere in the local economy.
- the *technical input/output coefficients,* which translate the resources used into value added produced – how much of a resource, and in what mix, is required to produce each unit of value added.

[1] DRC = *Opportunity Costs of Resources* used divided by *Value Added* produced measured at Border (unprotected) Prices.

When the EU prices, rather than world prices, are used as the comparator, the competitiveness as measured by DRC generally improves – since the EU prices are generally higher than world prices, though this also applies to the prices of inputs used to generate the value added.

Comparative advantages would show up in such a world in trade flows, and the associated balances between production, imports, exports and consumption levels in various localities, regions and countries.

But, in practice, the current trade flows are distorted – competition is not the only thing driving economic activity and the pursuit of profitable opportunities – governments interfere with trade and prices (for their own reasons).

However, there is no commonly accepted *measure of competitiveness in general*.

The comparison of the reported costs of production between different firms, different regions or different countries immediately runs into three major problems:

– *quality* (and thus willingness to pay by consumers and users) differs between firms, regions, and countries – hence making costs of production only one part of the unspecified equation measuring competitiveness;
– *protection and insulation* of local or domestic markets from the external or international competition – which will have the effect of increasing the cost structure of the protected industry to eliminate the pure profits which would otherwise exist;
– *the opportunity costs* of the underlying resources (land, labour, capital and management) which depend critically on the condition of the rest of the local and trading economies.

However, if we abstract from the problem of quality for the moment (i.e. if we ignore it and assume that the products are homogeneous among countries or regions), it should be possible to compare the values added to the opportunity costs of the resources used among sectors, localities or countries.

To define the range of the crucial factors influencing conditions for fulfilling the aims of the particular economic system and the position of an agricultural enterprise from the perspective of its "production" function in the current conditions of agribusiness, i.e. *according to the vertical approach*, it is also necessary to examine the *competitiveness of the agricultural enterprise* from the perspective of *the acceptability of the structure and achieved economic parameters of production on the part of the market* in a broader *context*, especially from the perspective of real vertical participation in the appropriate foodstuff production system.

Within this approach, it is necessary to consider the fact that the relevant market is constantly expanding with the majority of agricultural commodities.

Competitiveness in the framework of the agribusiness commodity chain

As discussed in the last reports (Bečvářová 2005b, 2007), agribusiness shaping processes as an exposure of globalisation in agriculture are typical of the inclusion of companies in many sectors that more or less participate in the production, processing and distribution of foodstuffs into a self-contained system. In this process, the influence of finalizing segments (processing and distribution) during the shaping of demand for raw products grows, from the perspective of structural and economic characteristics, and affects the allocation and the level of utilization of production factors, which fact is also reflected in *the potential development of the individual world regions* with much broader economic, social and political consequences.

The position of agricultural enterprises is changing from a relatively independent farms to one of the components more tightly aligned to food (and non food, actually) production and distribution chains. The changes are of such importance that they give a new shape to agrarian markets along the food – commodity chains. On that ground, the criteria of competition capture new conditions of development in this context. In practice, the acceptance of the consumer concept in the policy (the demand driven model) and the shift of focus to the finalizing segments of the processing and distribution of foodstuffs ever more significantly form a new and harder competitive environment of both agricultural companies and food processing companies. Ever more often, a limiting condition for the level and choice of the structure of agricultural production in the particular region is the success in the sales of source agricultural products in the form of the demanded final/food products on the end consumer markets.

The relativity of assessment and the predictability of changes in the definition of regional markets (they currently often exceed national frontiers) is also related to this issue. A condition for achieving unbiased knowledge while using this approach is also the assessment of the influence of the tools of agrarian policy that significantly distort the conditions and possibilities to implement competitive advantages of enterprises in the agrarian markets.

As a result, this approach to the assessment of the competitiveness of agricultural enterprises ever more

often includes *the analysis of the influence of a group of factors* shaped by the sector and national specifics or different conditions under which the agrarian sector achieved certain results.

Economics largely deals with commodities – all units of which are considered identical to each other. The real world has moved on from commodities, and now increasingly deals with products, which are differentiated in a variety of real or perceived ways influencing market supply and demand diagrams.

Generally speaking, *competitiveness deals with the notions of whether one product (and thus its commodity chain) can compete in the market place and sustain, if not improve, its share of the total market and the total value it can add to the raw materials as the products move through the chain*.

Although the principle of comparative advantage still operates, the extent of competition and competitiveness involves rather more than simply how well the product is doing compared with the ability of other products. The concept of the agribusiness used here is still very simple – it simply involves organising resources (land, labour, capital and management) to produce products which are wanted (that is, for which people are prepared to pay good money).

The inclusion of the key elements of products, as opposed to commodities, suggests that *competitiveness will depend on being distinctive from the competition in the ways which are, and will continue to be, regarded as valuable by the user*. This implies that the product (or the resources which are needed for its production) are relatively rare, otherwise the consumer or user can turn to other supplier than the original one. It also implies that there should be few, ideally *no imitations or substitutes* available, since the existence of either good imitations or substitutes for the product will reduce the amounts consumers and users are willing to pay for the original product.

These attributes of *competitive products* (valuable, rare, inimitable, non-substitutable) can be labelled as the products *competitive advantage* (which is obviously rather different from and more sophisticated than comparative advantage).

Since technologies are frequently easily copied and most resources are fairly commonly available, the distinctiveness must rely on more intangible aspects of business organisation. As Kay indicates (Kay 1996), four key elements to firms (or marketing chains) distinctiveness can be identified in general, as follows:

– *the network of relationships (architecture)* the firm has with its suppliers and customers, as well as the internal networks the firm uses to keep its parts and people working together;
– the *reputation* of the firm or chain, which is clearly of vital importance in signalling to the customer the quality and reliability of products, especially for search products – which customers buy infrequently and so have a limited personal experience of the actual quality, value for money and reliability of the product;
– *innovative capacity*, reflecting the extent to which new customer requirements and new niches emerge and new, different and valuable ways of meeting these emerging and growing requirements are identified – which is frequently and strongly associated with the architecture above, since it involves a continual and accurate transmission of the final customer requirements back up and through the marketing chain;
– *strategic assets* – the extent to which you have the control over a limited resource or have a naturally or legally restricted market, and can thus trade on a degree of monopoly power.

These firm or chain characteristics (architecture, reputation, innovation and strategic assets) are evaluated as the firms' *distinctive capabilities*.

Competitiveness involves the firm's distinctive capabilities to the competitive advantage of the actual and potential products (and their underlying resources), with the primary objective of adding value to the product (as a combination of inputs and resources), since it is the added value which provides the income and profit to the firm. It is this combination of competitive advantage and distinctive capability, which determines the competitiveness of the firm and its position within the food producing commodity chain.

Furthermore, the shape and conditions for the monopoly (market) power exhibition resulting from the different market structure along the chain is changing over time (more Bečvářová 2007) with respect to the position of entities at individual stages. This is also true with so far separately functioning markets of appropriate commodity verticals. They lead to a narrower collaboration of related segments, including the search for the most beneficial forms of connections, in order to increase the competitiveness of the entire chain (in practice, this is often done intuitively). The pressures on cost savings, on the one hand, and the efforts to control more stages of the foodstuff chain, on the other hand, are the crucial motives causing consolidation at horizontal and vertical levels; in agribusiness, this especially applies to finalizing segments. Mergers, acquisitions, joint ventures and strategic agreements up to vertical integration take place; many inefficient segments are excluded from

the market and disappear. This development often affects entities operating on the world, European as well as regional agrarian markets.

CONCLUSION

The shaping of agribusiness, whether fully accepted in the structural and economic policies of individual countries or international groups or not, brings about new views of the traditional approaches and the assessment of technical and economic efficiency of agricultural enterprises and the application of agricultural management systems.

If the competitiveness of a certain economic system is generally understood as its ability to achieve results corresponding to the aims of the system and dynamics thereof in a competitive environment, then under current conditions the crucial criterion for production in an agricultural enterprise is competitiveness from the perspective of the acceptability of an offered product by the market, i.e., in the broader context of agribusiness. The prerequisites of the agricultural enterprises competitiveness are changed and create new conditions of success based upon the participation of all other segments of commodity chains and the overall functioning of the chain itself.

The demand becomes the crucial relationship influencing conditions in a range of the connected agrarian markets. Under current conditions, the required strengthening of the position and the competitiveness on world agrarian and foodstuff markets concern the *entire foodstuff production chains* (all segments of the appropriate commodity vertical). The requirement arises from the need for a quick response and adaptation to the changing external and internal conditions, including rising demands for the coordination of activities within commodity verticals.

The examination of the economic efficiency of foodstuff economy within agribusiness as a whole will be ever more significantly based on the *dynamic concept of competitive advantages in the entire complex.* The advantages are conditioned and should be measured not only by the result of a relatively independent entity on a specific agrarian market that corresponds to the particular stage of the increase in value of the original raw product within commodity foodstuff chains, but especially by the result of entire commodity chains that include not only activities, but also the conditions and mutual relationships of the entities participating in the development, production, processing and distribution of foodstuffs within the entire process of production, processing and sales of final products. A similar approach should be exerted to the identification and assessment of the manifestations of market power within the entire vertical.

Within a specific region, bonds and especially the efficiency of the directly related segments that process agricultural products, i.e. usually food processing companies, are of importance for agricultural enterprises; the competitiveness of a food processing company, especially its successful participation in the appropriate foodstuff vertical and selection of the supplier of the raw product, determines the actual demand on the market of agricultural products. The success of this interaction seems to be one of the crucial factors influencing the structure and extent of agricultural production in the particular region, regardless of whether the processing company is located in this region or not. While the regional affiliation of primary agricultural enterprises usually depends on the location of the cultivated land, regional aspects are less important in the relationship to the related segments of the commodity vertical (also in the case of the relationship with primary processing enterprises) – economic conditions and bonds between producers and processing companies within a broader context of the relevant market are crucial. It is obvious that the despite regulatory interventions and different levels of legislative environment, in general, the development in agribusiness will further increase the dependency of agricultural enterprises on related segments of foodstuff chains, including the transfer of risks and the enforcement of market power in a broad range of mutually connected markets. To respond to these changes in agriculture means to adapt to the new environment, to seek connections with these segments of commodity/foodstuff verticals and to coordinate production specialization especially with respect to permanent sales of most commodities, which often exceed the existing boundaries of the particular region.

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