

# The significance of commodity exchanges for trade in agricultural products in the Czech Republic, and prospects of their future development

*Význam komoditních burz při obchodování se zemědělskými produkty v České republice a perspektivy jejich dalšího vývoje*

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**Abstract:** The paper deals with the functioning of commodity exchanges in the Czech Republic, and is particularly concerned with exchanges trading in agricultural production commodities. The introductory part of the paper is oriented towards the theory and general structure of commodity exchanges; the other parts subsequently deal (in more detail) with the most problematic areas of their operation in the Czech Republic up to the present time. Within this part of the paper, the method of analytical evaluation is used for examining, above all, the existing legal regulation, the structure and function of these exchanges. Subsequently, using the method of comparative analysis, selected key aspects of their operation are compared with the theoretical requirements of their functioning as well as with the everyday functioning of this kind of exchange in economically developed countries. Findings gathered this way are subsequently utilized in the concluding part of the paper, the subject matter of which is a prediction about the possible variants of the future development of Czech agricultural commodity exchanges, with regard to the assumed admission of the Czech Republic to the European Union.

**Key words:** prompt transactions, futures, options, liquidity, agricultural commodities, hedging, risks

**Abstrakt:** Článek se zabývá problematikou fungování komoditních burz v České republice se zvláštním zaměřením na burzy obchodující s komoditami souvisejícími se zemědělskou výrobou. Jeho úvodní část je orientována do oblasti teorie a obecné struktury komoditních burz, v dalších částech jsou následně podrobněji řešeny nejdůležitější problémové okruhy týkající se jejich dosavadní činnosti v České republice. V rámci této části příspěvku je metodou analytického vyhodnocování zkoumána především současná právní úprava, struktura a funkce těchto burz, a následně, s využitím metody srovnávací analýzy, je prováděna komparace vybraných nejdůležitějších aspektů jejich činnosti jak s teoretickými požadavky kladenými na jejich činnost, tak i se standardním fungováním tohoto typu burz v ekonomicky vyspělých zemích. Tímto způsobem získané poznatky jsou následně využity v závěrečné části článku, jejímž obsahem je predikce možných variant budoucího vývoje českých zemědělských komoditních burz s přihlédnutím k předpokládanému vstupu České republiky do Evropské unie. Příspěvek vznikl v rámci řešení výzkumného záměru PEF MZLU v Brně MSM 31100007 „Formování struktury zemědělství a potravinářského průmyslu a trendy chování podnikatelských subjektů v procesu integrace České republiky do Evropské unie.“

**Klíčová slova:** promptní obchody, termínové obchody, opční obchody, likvidita, zemědělské komodity, zajištění, riziko

In developed countries, commodity exchanges are regarded as an integral part of the market environment. It is because they contribute to the formation of objective market prices, and also increase the liquidity of the market and reduce risks connected with off-exchange transactions. However, in the Czech Republic the situation has so far been somewhat different in this respect. With regard to the fact that in the modern history of the Czech Republic commodity exchanges were established no sooner than within the past ten years or so, it is still rather

problematic to evaluate their functioning up to now and their benefits for the Czech economy.

This paper is focused on just one of the aspects of exchange business: the present function of commodity exchanges specialized in agricultural product trading in the Czech Republic. The aim of the paper is to analyse their present function and to assess the impact of their operation on the Czech economy, especially in the field of agriculture. The paper subsequently aims at determining possible variants of their future development in con-

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nection with the expected admission of the Czech Republic into the European Union.

The paper consists of three separate but closely related parts, the first of which focuses on the definition of a general function of commodity exchanges, and their system organization. This exposition utilizes a standard system of the individual kinds of exchange – see Rejnuš (2001), and defines their basic system organization according to the field of operation and the nature of transactions performed on these exchanges, together with the standard ways of their functioning. In the second part, the method of analytical evaluation is used for reviewing their operation in the Czech Republic up to the present time. Taking into account the fact that – despite the relatively narrow definition of the problems in question – it represents a rather intricate problem area, the research was done from a number of partial perspectives that were differently oriented yet related to each other. All partial analyses were directed to the most significant aspects of the problems surveyed here. The existing legal regulation was reviewed, above all, the Commodity Exchanges Act No. 229/1992 (of the current Collection of Laws). The structure and function of these exchanges were reviewed, too, as well as some external influences that affect their operation. At the same time, using the method of comparative analysis, the most important aspects of their operation were compared with both the theoretical requirements of their operation and the everyday functioning of this kind of exchange in economically developed countries – see Dědič (1992). Findings gathered this way are drawn upon in the third, concluding part, which contains a number of recommendations based on the previous analyses, as well as a prediction about the possible variants of the future development of Czech agricultural commodity exchanges, with regard to the assumed admission of the Czech Republic to the European Union.

## FINDINGS AND DISCUSSION

Within any system of exchange markets, regardless of the subject of orientation, there is always a possibility of mutual co-existence of prompt and futures exchanges, especially those where futures or options contracts are traded.

Compared to financial asset exchanges where prompt exchanges are usually considered to be the fundamental and most important type of exchange, commodity exchange trading is different in that there is a general opinion that futures exchanges are of the greatest importance, especially those where futures contracts are traded. The fact mentioned above results from the different properties of financial assets and physical commodities. Finan-

cial assets are in essence immaterial therefore they do not require physical manipulation, and business transactions done with these assets are settled by non-cash transfers<sup>1</sup>. On the other hand, material commodities – which are typically offered as outputs of a particular productive activity, and are also asked for with the intention of using them as inputs for further production (so they are consumed in the end) – necessitate, unlike financial assets, ensuring a good number of other related activities<sup>2</sup>. With regard to the facts given above, the most common business transactions performed on commodity exchanges are not prompt but rather forward transactions, above all, fixed futures contracts. These allow both the buying and the selling economic subject to time the material settling of their business appropriately, according to their individual needs. At the same time, with respect to the future physical consumption of the particular commodities, the participants in this kind of exchange business usually prefer the actual settling of their deals in the future. From this point of view, these markets are clearly different from financial asset futures exchanges, where the individual market participants more often open positions with a view to speculating rather than settling their exchange transactions.

Options, too, provide opportunities for both security and speculations; however, they play a supplementary role for most commodities. This is why it is not very common to establish such narrowly specialized exchange institutions for the majority of commodities traded through exchanges; options transactions are realized either on futures exchanges together with futures contracts, or traded off-exchange only.

The facts given above imply that the operation of commodity exchanges is, objectively, essential for the functioning of a market economy. This, however, does not mean that it is possible to make use of them in all fields of production, or in all fields of economy. The major significance of this type of exchange is generally seen especially in trading in commodities that either cannot be stored for an unlimited period of time, or the production of which is significantly influenced by weather (as far as both the volume and quality of production is concerned), which also brings about greater volatility of the price of these commodities. In the world, there are many commodities that are traded through commodity exchanges; these are, above all, commodities that are for example mined, produced in some countries of the world only, or commodities the exchange trading of which was established in history thanks to their particularity or importance. Among agricultural commodities, these are, above all: cotton, wool, coffee, cocoa, rice, tea, sugar, various cereals, oils, fruit, vegetables as well as some kinds of meat etc.

<sup>1</sup> For example, transfers of dematerialized or immobilized securities in the respective registers, transfers of monetary means (foreign currency) on bank accounts etc.

<sup>2</sup> Referred to as “auxiliary transactions”, provided by the particular exchange. Among them there are: shipping, forwarding, insurance and warehousing transactions that are connected with exchange transactions of material commodities.

## **AN ANALYSIS OF THE PRESENT FUNCTION OF COMMODITY EXCHANGES SPECIALIZED IN AGRICULTURAL COMMODITY TRADING IN THE CZECH REPUBLIC**

With regard to the fact that the problems of commodity exchanges comprise a number of important, closely related areas, it is necessary to respect this fact and to adapt the method of analysis appropriately. This is why I have divided the overall analysis into a number of partial areas, the focus of which has been specified as follows:

- *An analysis of the current Czech legislation concerning the problems in question*
- *An analysis of Czech agricultural commodity exchanges, with regard to the subject of operation and the types of realized transactions*
- *An analysis of the function of Czech agricultural commodity exchanges up to the present, and of their significance in agricultural commodity trading*
- *An analysis of other factors of the external environment.*

### **An analysis of the current Czech legislation concerning the problems in question**

The Commodity Exchanges Act No. 229/1992 (of the current Collection of Laws) defines commodity exchanges as juridical persons established in order to organize exchange trade in goods (commodities) and in derivatives related to commodities that are traded through exchanges. According to the Czech legislation, these exchanges are governed by both private law and public law. The private-law nature of Czech commodity exchanges is embodied especially in the fact that they may be established, in the form of founding contracts, by entrepreneurs registered at the Companies Register, or that these people may become members of such exchanges. Their public-law character exhibits itself for example in the legal regulation of their position as well as in the control of their activities exerted by the state through exchange commissioners of the ministries that issued the respective licences, in which they approved the subject and extent of exchange transactions.

Commodity exchanges established in the Czech Republic do not have the legal form of a joint-stock company. They are juridical persons established on the principle of membership. Their objective is not making profit but organizing trade in commodities; they, however, do not take part in this trade themselves. Here, a principle of “open membership” is followed: direct trading

(but possibly also through an exchange broker) may be performed solely by the exchange members and by juridical persons established by the law in order to regulate the market or to create and protect material reserves. Indirectly (that is, through an exchange broker only), other subjects may take part in the trading, provided that they are entitled to the production, processing or selling of the traded commodities, or they are entitled to the provision of services that are related to these commodities.

As far as the problems described above are concerned, it can be stated that the current Czech legislation concerning commodity exchanges is not particularly different from the legislation that is in effect in other countries, especially those of the European Union, and that the legislation does not hinder these exchanges from further development.

### **An analysis of Czech agricultural commodity exchanges, with regard to the subject of operation and the types of realized transactions**

At the present time<sup>3</sup>, there are seven registered commodity exchanges<sup>4</sup> in the Czech Republic. Five of them are registered for trading in certain kinds of agricultural product<sup>5</sup>. Further enquiry into details would reveal that all of these five commodity exchanges have registered for identical subjects of enterprise at the Companies Register, the subject being “products of vegetable production and animal farming and products made by processing of these, as well as products used in connection with their production, relocation, processing or sales.” Furthermore, the fact that all of these exchanges are registered for performing prompt<sup>6</sup>, forward<sup>7</sup> and auxiliary<sup>8</sup> transactions implies that they are allowed to perform practically identical activities, and thus compete against each other on a full scale of their operations.

The analysis given above also implies another fact: that in the Czech Republic, there are no specialized commodity exchanges as far as the types of realized transactions are concerned. Their specialization regards solely the kinds of commodity that may be traded there (this is referred to as “subject specialization”).

### **An analysis of the function of Czech agricultural commodity exchanges up to the present, and of their significance in agricultural commodity trading**

It is possible to see a number of further differences in operation if we compare the existing Czech agricultural commodity exchanges with similar markets in other developed countries.

<sup>3</sup> As at 30 April 2002.

<sup>4</sup> However, some of them practically do not show any activity at present.

<sup>5</sup> For the purposes of this paper, wood is not considered an agricultural commodity.

<sup>6</sup> Prompt transactions include also “delivery transactions”, which are settled in approximately thirty days.

<sup>7</sup> Forward transactions are sometimes subdivided into futures (called “direct transactions”), speculative transactions, margin deals, hedging, options, continuation businesses, boarding and arbitration transactions.

<sup>8</sup> In particular, auxiliary transactions include insurance, shipping, forwarding and warehousing transactions.

From this standpoint, the most significant factor that can be observed is an *abnormally low volume of transactions realized up to now on quotation-making exchange markets* in the Czech Republic. This is connected with the fact that although the field of operation of Czech commodity exchanges (as specified in the Companies Register) is quite wide, these exchanges have so far been trading in a limited number of kinds of agricultural commodity. Further, trading on these exchanges takes place in relatively long intervals<sup>9</sup>, and has so far been performed in negligible volumes<sup>10</sup>. Vegetable production commodities that have been traded up to now include cereals<sup>11</sup>, pulses<sup>12</sup>, oils<sup>13</sup> and vegetables<sup>14</sup> only. As far as products of animal farming are concerned, meat trading has already been established, though not until recently<sup>15</sup>. Because of these facts, commodity exchanges in the Czech Republic influence the formation of agricultural commodity prices to a much lesser extent than they do in other developed countries. This subsequently implies that almost all transactions have so far been performed off-exchange there<sup>16</sup>. However, it also poses a number of risks to the trading participants, regarding potential breach of contractual terms on the part of one of the parties involved. Furthermore, if – due to the absence of exchange trading – aggregate supply cannot meet aggregate demand in a commodity market, there arise, especially when the liquidity of the market is low, favourable conditions for the emergence of oligopolies and oligopsonies. Especially the latter risk is of greater significance in the Czech Republic because, in local agricultural commodity markets, there are quite a lot of producers supplying the same agricultural products, but there are much less purchasers (yet these are bigger). Moreover, another danger might be posed by the entrance of strong foreign trading companies into Czech commodity markets, as the inland production of some agricultural commodities could possibly be driven out of the Czech market entirely.

Another problematic area, as regards Czech agricultural commodity exchanges, is represented by *problems with the setting of exchange quotations*. The problem lies, above all, in the fact that, as there is no trading done in the majority of the individual commodity markets, it is not possible to establish quotations by which economic subjects trading off-exchange could abide. At the present time, Czech commodity exchanges – if there are

no deals concluded at the auction – make public “reference prices”<sup>17</sup> at least. These prices can never replace quotations set by a functioning liquid exchange market; they nevertheless provide at least a partial solution to the unfavourable present situation, and preserve the appearance that these exchanges really function.

However, the absence of fixed futures contracts and the related absence of quotations set by the market brings further negative impacts. First and foremost, they complicate the prediction of the future price development of the traded commodities. Second, they reduce the possibility of utilizing exchange trade as a means of protection against possible price variations (a form of hedging). This also limits the standard forms of speculation causing subsequent negative impacts on the liquidity of the market.

The analysis given above clearly shows that exchange trading in agricultural commodities in the Czech Republic does not function overmuch yet, and that its influence on agricultural commodity trading is not very significant.

### **An analysis of other factors of the external environment**

A relatively important factor of the Czech agricultural commodity market is constituted by *state interferences in the sphere of intervention purchase of selected agricultural commodities*, which often greatly influence the functioning of these markets. In the Czech Republic, the act No. 229/1992, according to Sections 21 and 23, entitles juridical persons – established by the law in order to regulate the commodity market or to create and protect material reserves – to perform directly business transactions on commodity exchanges in their own name, on their own account, and not through the agency of a broker. Yet the representatives of the State Agricultural Intervention Fund and of the State Material Reserve still practically do not take advantage of this opportunity; and by purchasing the above-mentioned agricultural commodities off-exchange they seriously threaten the market formation of prices.

Insufficient international cooperation in this area represents another important factor. It is necessary to take into account the fact that the only agricultural commodity exchange operating in the Czech Republic at present

<sup>9</sup> Usually once in a fortnight.

<sup>10</sup> There is no point in mentioning the volumes of realized transactions here, as they practically amount to zero.

<sup>11</sup> Above all: wheat and fodder wheat, rye, malting and fodder barley, maize and fodder oats.

<sup>12</sup> Peas only, for the time being.

<sup>13</sup> Above all: rape seed, sunflower seed, white and black mustard seed, and rape meal.

<sup>14</sup> Above all: onions, carrots, early and late market potatoes.

<sup>15</sup> In particular, porkers and pork halves traded on the Obchodní burza (Trading Exchange) in Hradec Králové.

<sup>16</sup> This is why there is no point in making more detailed analyses regarding the volume of exchange transactions.

<sup>17</sup> On the Plodinová burza (Produce Exchange) in Brno, these are prices that are based on the average of prices for which the members of the exchange concluded business with the particular commodities in the particular period, even though these transactions could have been performed off-exchange. As far as the Obchodní burza (Trading Exchange) in Hradec Králové is concerned, the reference prices are average prices of the registered supply and demand on the particular exchange trading day.

is Plodinová burza (Produce Exchange) in Brno, a member of the European Commodities Exchange since 1996.

#### **FUTURE DEVELOPMENT PROSPECTS OF AGRICULTURAL COMMODITY EXCHANGES IN THE CZECH REPUBLIC, WITH REGARD TO THE PLANNED ADMISSION TO THE EUROPEAN UNION**

There are a lot of agricultural commodities in the world that are traded through commodity exchanges. However, not all of them can be traded this way in the Czech Republic. Commodities that are considered non-negotiable include, above all, those that are produced solely outside the Czech Republic and, therefore, there would not be sufficient interest in their trading. On the other hand, there is a number of commodities that are produced in the Czech Republic and – despite the fact that practically all of them are traded on the world's important commodity exchanges – it is convenient to trade in them on commodity exchanges, either locally or on a nation-wide scale. These are, above all, commodities the exchange trading of which could bring their producers improvement in sales conditions (or purchasing conditions, for trading or processing companies), which especially holds true for agricultural commodities. However, taking into account the relatively small area of the Czech Republic and – from the international point of view – the relatively low volume of commodity exchange trading there, it is necessary to project and establish these exchanges with great deliberation. If these exchanges are to operate on a nation-wide scale, it is important to project them so that their activities do not overlap, and the relatively low liquidity of their exchange markets is not lowered any further.

As the Czech agricultural commodity market may generally be viewed as a relatively narrow and shallow market, it is necessary to pay considerable attention to its liquidity as well. It is without doubt that an increase in liquidity would be contributed to by the participation of institutions established by the state in order to regulate the market or to create and protect material reserves, that is, by the participation of the State Agricultural Intervention Fund and the State Material Reserve in exchange trading. This would allow, right on the exchange and for market prices, purchasing the particular commodities into state funds and thus increase the liquidity of the market considerably. Furthermore, by participation of these institutions in forward transactions, especially in futures, the state would be able to significantly influence (by its demand but, in some cases, also by its supply) the future development of market prices, and thus to regulate the prices of the particular commodities.

In connection with the prepared admission of the Czech Republic to the European Union, it is also necessary to consider the future trading in all agricultural commodities within the European commodity market. However, the participation of Czech agricultural commodity exchange-

es in the European system needs to be considered with deliberation, which means, it is necessary to distinguish between local exchanges and exchanges operating at the national level. Here, it is important to take into account the membership of Plodinová burza Brno in the European Commodities Exchange, the members of which are exchanges from most European countries. This fact has to be considered and respected when projecting the future development of the agricultural commodity exchange system in the Czech Republic. Thanks to this membership, Plodinová burza Brno currently has the biggest chance of attracting the attention of both Western and Eastern agricultural commodity traders, which would significantly increase the liquidity of the Czech agricultural commodity market.

In order to achieve this, however, it is necessary to take a good number of further measures and to meet a lot of organizational and technical conditions. With regard to the fact that the problems described here are connected with the future participation of the whole Czech agricultural commodity market in the European agricultural commodity trading system, mutual cooperation and development of Czech agricultural commodity exchanges can by no means be overlooked. This would be contributed to by the establishment of an Association of Commodity Exchanges in the Czech Republic. This Association should set as its principal objective the establishment and control of gradual unification of market practices, increase of mutual awareness with regard to prices and parities, the operation of arbitration courts, and creation of an ethical code for agricultural commodity traders. Through Plodinová burza Brno, the Czech Republic's representative in the European Commodities Exchange, it would be possible to subsequently discuss these documents at the international level and thus to ensure gradual integration in and compliance with the European Union.

Online trading, too, brings great opportunities in this field; the use of the Internet would, for example, allow interconnection of the national exchanges. Through them it would be possible to trade internationally, within the European agricultural commodity market.

#### **CONCLUSION**

The analysis regarding the current state of operation of Czech agricultural commodity exchanges presented in this paper shows that although there are such exchanges in the Czech Republic, it is by no means possible to consider their present function as satisfactory. While no particularly significant deficiencies have been found in the sphere of legislation, the passivity of some of the existing exchanges seems to be the source of major problems, together with low liquidity of the market (lowered even further thanks to some off-exchange intervention transactions of the state) and, last but not least, still rather imperfect participation in the international exchange structures. Because of the above-mentioned facts, the

Czech system of agricultural commodity exchanges as yet fails to fulfil its function, and although it does exist, the system does not provide any substantial benefit to the Czech agriculture. Therefore, in connection with the prepared admission of the Czech Republic to the European Union, there are no more than two possibilities of further development. Either the Czech commodity exchange system participates in the European system and becomes its part, or the Czech agricultural commodity producers and consumers join the system themselves through foreign companies, thus making the existence of Czech commodity exchanges unnecessary in the near future.

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