



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

## INTRODUCTION OF THE GRAIN FUTURES MARKET IN THE BLACK SEA REGION

*Vlado Kovačević<sup>1</sup>*

### Abstract

*In this paper are analysed possibilities and mechanisms for developing grain futures in the Black Sea Region. The transition to the market economy in the agricultural sector of Romania, Bulgaria and Serbia reinforces the need for the development of market mechanisms that would allow agricultural producers, production planning, marketing, and hedging.*

*In the early 21st century an attempt was made with the support of USAID to establish a wheat futures market for the countries of the Black Sea Region. The project was unsuccessful. The reasons lie primarily in the attempt to simultaneously involve a large number of countries that had: (1) different standards of wheat quality, (2) different and incompatible payment systems between countries, (3) customs barriers between countries, and so on. The proposal now is to precede with the establishment of futures markets in Serbia, Romania and Bulgaria, which have liberalized markets between themselves, and established a common legal EU' framework related to the commodity derivatives market. After a successful introduction of the futures market for these three countries, other countries in the Black Sea Region can individually join the already formed system.*

*A large volume of wheat futures trading is expected on the Black Sea futures market, littoral for two reasons. Firstly, a significant part of global trade in wheat is contracted for delivery to Black Sea ports. Secondly, the volatility of wheat prices has been notable in recent years, strengthening the need for the use of futures to insure wheat prices in the future.*

*Romanian and Bulgarian membership in the World Trade Organization and the European Union, together with Serbian candidate status in both organisations guarantees that the market between those countries will remain liberalized. EU directives on investment protection schemes and a common derivatives market enforced for all EU countries will positively influence the grain futures market for the Black Sea Region.*

**Key words:** *commodity exchanges, futures contracts, hedging, warehouse receipts.*

**JEL:** *E61, Q13*

---

1 Vlado Kovačević, M.Sc., Indemnity Fund of the Republic of Serbia, Nemanjina Street 22-26, 11000 Belgrade, Serbia, Phone: +381 64 65 81 519, E-mail: [vlado.kovacevic@kompenzacionifond.gov.rs](mailto:vlado.kovacevic@kompenzacionifond.gov.rs)

## Introduction

Futures (futures) contracts are liquid contracts that have many similarities with forwards, so that some authors consider them a variant of forward contracts. A futures contract means the agreement to sale/buy a certain quantity of agricultural products at a predetermined price, quality and place and date of delivery. The main agricultural products with the highest volume of futures trading are in wheat, corn, soybeans, rice, coffee, cocoa and cotton.

There are many fundamental differences between futures and forward contracts, such as: Futures contracts can be traded on secondary markets (they are liquid) as opposed to a forward contract (Belozertsov et al., 2011).

In futures, delivery is flexible so that the delivery of agricultural products can be made during the month. In a forward contract, the delivery of agricultural products is linked to a particular day or a maximum of a few days.

The forward contract is not managed by a clearing house and does not require a margin, so that a forward trade carries a greater risk of default than futures.

The closing of forward contracts is done with actual delivery of the agricultural products, while with futures, delivery of goods is the exception (only two percent of futures contracts actually implement the delivery of goods), and the closing of the contract is usually by payment of the difference in price.

Futures contracts are characterized by high standardization in terms of asset types, quantity, quality, delivery place, delivery time (Aimin, 2010). At the entering into the future contract, knowledge of the buyer/seller is not required because the clearing house appears in both the buyer's and seller's roles. Neither is creditworthiness analysis of the seller by the buyer and vice versa required.

Wheat traded on the CBOT (Chicago Board of Trade) implies that a contract is concluded in 5,000 bushels. Resolving the issue of the size of the contract is a sensitive for any commodity derivatives, if the contract is too large it will exclude small players, on the other hand, small contracts increase costs, It can be concluded that the standardization of the quantities of assets per futures contract is something the commodity exchange should determine on the basis of the situation on the market in question (not to be accepted without an analysis of the experience of other markets).

Standardization of quality implies that agricultural products have certain physical and chemical characteristics. For some products several levels of quality may be determined, as is the case where the CBOT corn contract is at the standard quality referred to as "No. 2 yellow", but replacement is allowed with other qualities within established relationships.

Standardization of delivery times means that the maturity of the futures contract is predetermined and related to events in a particular month. So, for example, CBOT corn may be traded on March, May, July, September and December contracts.

Established roles to achieve the effect of economies of scale in transactions and thus reduced transaction costs make trade easier and more attractive.

The existence of competition in supply and demand is a necessary condition for the efficient trading of futures on agricultural products. There must be a sufficient number of subjects in the futures markets for agricultural products who want to protect themselves from risk, and in taking on risk subjects expect to make a profit (Zakić et al., 2012).

A futures contract buyer (taking a long position) expects the price of agricultural products in the spot market to grow. By selling futures (taking a short position) on an agricultural product, the seller expects the opposite - the price of agricultural products in the spot market will fall (Allgood et al., 2010).

EXAMPLE: Serbian agricultural company is planning in May to sale 3000 tons of wheat, futures price is 252 dollars/t for delivery in October FOB Black Sea port Costanza-Romania. As the Company still has no wheat in May they are worrying that the price can go up until October. To ménage the price risk Serbian company is selling futures contract (3000t) for September delivery on Black Sea Regional future market. There are two possible scenarios:

*Scenario 1:* the price on spot market in October is 232 US dollars/t. The Serbian company will received profit of 20 US dollars/t on futures market, but as the wheat is actually sold for 232 US dollars/t, final result is:

*232 \$/t (price received at spot market) + 20 \$ (gain on future market) = 252 (planned price in May)*

*Scenario 2:* the price on spot market is 272 US dollars/t. The Serbian company will have loss of 20 US dollars/t on futures market, but as the wheat is actually sold for 272 US dollars/t, final result is:

*272 \$/t (price received at spot market) - 20 \$ (gain on future market) = 252 (planned price in May)*

In both cases Serbian company will receive planned amount of 252\$/t, in the case if the spot price is lower than planned price will be compensated with profit on future market and if the spot price is higher than planned, actual price will be lowered to planned price by loss on futures market. In both scenarios basis (difference in spot prices at which grain is sold and future price) remain unchanged and it is so called perfect hedging. In practice basis is not remain at zero and it can disturbed planned hedging strategies.

It may be concluded that the sum of all the gains in the futures market for agricultural products is equal to the sum of all the losses, so that it can be said that this is a zero sum game. All these characteristics are achieved through the specific futures trading mechanism, based on a system of margins and daily adjustments (market to market). The existence of these mechanisms means that the parties have deposited a certain amount (the margin) in securing payment. There are two types of margin: initial and daily maintenance margin.

### Methodology and data sources

Based on the nature of the research, the paper used different scientific methods applied in the social sciences: case study approach (using examples); method of interview with relevant experts in the field of establishing commodity exchanges model and risk management of agricultural enterprises in the commodity markets; survey method with potential participants in the commodity-exchange market; statistical methods in analysing the collected data, as the possible tool in use of quantitative and qualitative analysis and synthesis (correlation and regression analysis), where all parameters are presented by tables and graphs.

Importance of introduction of Black Sea Futures market is that market will allow risk management regarding to grain price changes in futures for Serbian, Romanian and Bulgarian agricultural companies (USAID, 2002). For export companies which are selling grain (FOB Black Sea ports) it will be *ideal hedging* (Wisner, 2010), because of close correlations between spot and futures grain prices.

### Current commodity exchange trading in Romania, Bulgaria and Serbia

One of the biggest constraints for development of an efficient futures market is the potential volume of trade. A joint market of the three countries will enhance the possibility of establishing this kind of market. Wheat prices in Romania, Bulgaria and Serbia reflect similar trends and are becoming increasingly positively correlated.

For a joint futures market, EU directives on markets in financial instruments 2004/39, is important for establishment of futures market for Black sea Region, as it establishes a mutual legislative basis for a commodity derivatives market. This regulation is obligatory for all of three countries. The most advanced commodity exchanges in three countries are: Commodity Exchange Novi Sad (CENS), Romanian commodity exchange (BRM) and Sofia Commodity Exchange (SCE), can be participants in the futures market.

**Commodity Exchange Novi Sad, Serbia (CENS).** There are two types of market at the CENS: spot and forward. At the spot commodity markets Commodity Exchange Novi Sad trades: (1) wheat, (2) corn (3) barley, (4) oats, (5) rye, (6) components of animal feed, (7) soybean meal (8) sunflower meal, (9) wheat meal, (10) feed barley, (11) fish meal, (12) alfalfa meal (13) seeds, (14) mineral fertilizers, (14) industrial plants. On the forward market grain is traded on a small scale. The Commodity exchange Novi Sad has no electronic trading platform.

**Table 1.** Serbian wheat quality standard

Name	Wheat
1. Mass in hectolitres, kg/hl min.	78.0
2. Humidity, % max.	15.0
3. Impurities, % max., consisting of:	8.0
- organic white, % max.	5.0
- spoiled grains, % max.	2.0
- grains damaged by pests, % max.	2.0
- germinated grains, % max.	1.0
- other cereals, % max.	1.0
- foreign bodies, % max., out of which:	0.5
- inorganic, % max.	0.25
4. Damaging and/or toxic seeds, grains containing, % max.	0.25
<b>Contract size</b>	<b>20 tonnes</b>

Source: Commodity exchange Novi Sad, Available from:

[www.proberza.com/index.php?page=standardi](http://www.proberza.com/index.php?page=standardi) (Accessed at 22 Jan 2009).

**Romanian commodity exchange (RCE/BRM) - Romania.** BRM began work on the principle of auction on the floor and trading without restriction - all types of goods for which there was a supply / demand were traded. In 1994 the exchange successfully introduced trading with currencies in the spot market. In 1995 forwards on foreign currencies were introduced, and in 1998 futures on foreign currencies. Success in currency trading has enabled the stock market to invest in the development of futures markets for agricultural products. In 2000 electronic trading platforms were introduced. Progress in the development of trading in the futures of grains has been slow, primarily because the lack of an appropriate legal framework related to warehouse receipts, for which an indemnity fund has not been set up, so there are insufficient guarantees for safe delivery of products.

**Table 2.** Wheat quality standard at the BRM

Name	Wheat I	Wheat II	Wheat III
Wheat quality			
1. Mass in hectolitres, kg/hl min.			
2. Humidity, % max.	77.0	75.0	70.0
3. Impurities, % max., consisting of:	14.0	14.0	14.0
- cracked grains, % max.	3.0*	5.0*	7.0*
- weak grains, % max.	2.0*	5.0*	8.0*
- spoiled grains, % max.	0.5*	1.0*	1.0*
- grains damaged by pests, % max.	0.5*	1.0*	2.0*
- germinated grains, % max.	0.5	1.0	1.0
- other cereals, % max.	1.0*	2.0*	3.0*
- foreign bodies, % max., out of which:	1.0	1.5	2.0
- inorganic, % max.	0.5	0.5	0.5
4. Damaging and/or toxic seeds, grains containing	0.3	0.4	0.5
smut and ergot, % max., out of which:	0.05	0.05	0.05
- each of the toxic seeds, % max.	0.05	0.05	0.05
- ergot, % max.	min. 26	min. 24	min. 20
5. Content of wet gluten ISO	4 – 12	4 – 15	4 – 15
6. Index of gluten deformation	Min. 250	min. 250	min. 220
7. Falling index			
<b>Contract size (standard size)</b>	<b>100 metric tonnes</b>		

Source: Romanian commodity exchange, Available from: <http://brm.ro/index.php?page=cash-market/cereals/specifications> (Accessed at 11 Oct 2013).

\* The maximum content of cracked, weak, spoiled, pest-damaged grains and other cereals shall not exceed 6% of the total for the 1st quality; 10% of the total for the 2nd quality and 15% of the total for the 3rd quality.

**Sofia Commodity Exchange (SCE)** was established in 1991. On the Commodity Exchange in Bulgaria only agricultural products are traded. Bulgaria has established a highly efficient system of warehouse receipts in paper form, used for the physical delivery of goods after pairing stock orders. On the Commodity Exchange in Sofia, spot and commodity derivative markets are established. Options and futures on several standardized contracts are traded: food wheat, barley, forage, bear barley, corn, sunflower, black and white beans. Trade takes place in the general auction at which the participants trade. The standard contract size is 15 tonnes, and the delivery time up to 17 months. Exchange commission for trading grains is 0.15% and for other agricultural products 0.2%.



**Table 3.** Wheat quality standard at the SCE

Name	Wheat
Wheat quality	
1. Mass in hectolitres, kg/hl min.	76.0
2. Humidity, % max	14.0
3. Protein contents	Min 11,5
4. Wet Gluten	min23-24%
5. Falling index	min 220-230
6. W - alviografic analysis ( the strength of the flour)	min 120-130
7. Impurities	max 1%,
8. Including Noxious	max 0,1%
Contracts size	15 tonnes

*Source:* Sofia Commodity Exchange (data received upon request).

The selected countries share an interest in exploring opportunities to increase grain trade through the development of a grain futures contracts.

Several major international exchanges that are active in futures-market contracts outside the target countries have expressed strong interest in exploring efforts to develop a futures market in Southeast Europe and the Black Sea Region, including the Budapest Commodity Exchange - Hungary, the Warenterminborse Exchange – Hanover - Germany, the Chicago Board of Trade- USA and the Minneapolis Grain Exchange - USA.

Implementation of futures contracts, however, depends upon certain necessary infrastructure components being in place.

With proper infrastructure development, a futures contract on wheat appears feasible for Romania, Bulgaria and Serbia. For example, production volumes and price volatility are sufficient to support a joint futures exchange. Furthermore, key industry representatives have expressed strong interest in using a regional futures contract for wheat.

### Results and discussion

In order to establish joint future market it is needed to have compatibility between all three markets. In that regard comparison is made in the Table 4.

**Table 4.** Comparison of important elements for establishing a common grain futures market for Serbia, Romania and Bulgaria

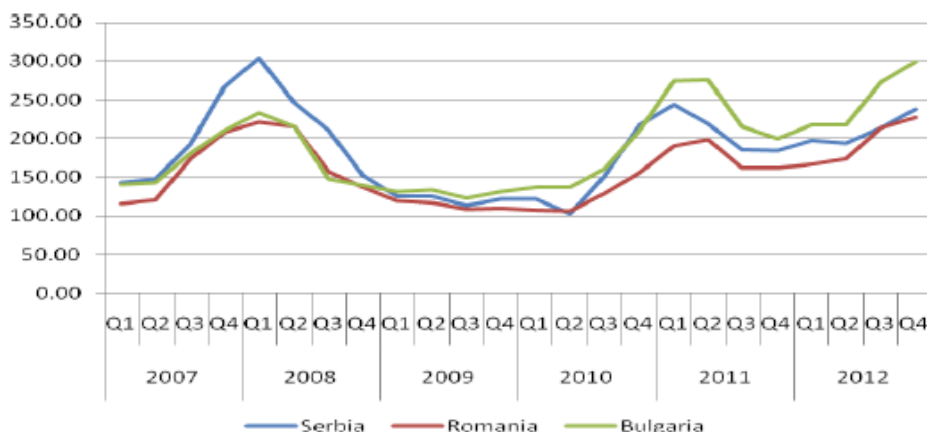
Country	Wheat production in 2012 in '000 tonnes	Customs barriers	Wheat quality standards	Trading platform	Warehouse receipts	Clearing and settlements in house
Serbia	2,921	No	Different	Non electronic	Well developed	No
Bulgaria	4,458,5	No	Different	Electronic	Well developed	Yes
Romania	5,215	No	Different	Electronic	Moderate	Yes

*Source:* Serbian grain fund (data received upon request).



Essential for decision to establish common futures market is to evaluate if there is substantial price correlation on spot markets between countries (Wright, 2009.).

**Graph 1.** Monthly prices of wheat in Serbia, Romania and Bulgaria in 2007-2012, prices are in EUR



Source: According authors' calculation

Sufficient price volatility and price correlations among the markets could be observed from graphs 1, 2, 3 and 4, and Table 5. Price volatility is essential for the futures market to enhance the need for the use of futures contracts by hedgers and speculators.

The price correlation between the three countries is important for the implementation of the hedging strategies. Closer correlation is better and gives the possibility to hedgers who are not selling at the Black sea ports to use the common futures market as well.

**Table 5.** Correlations in wheat prices for Serbia, Romania and Bulgaria in 2007-2012

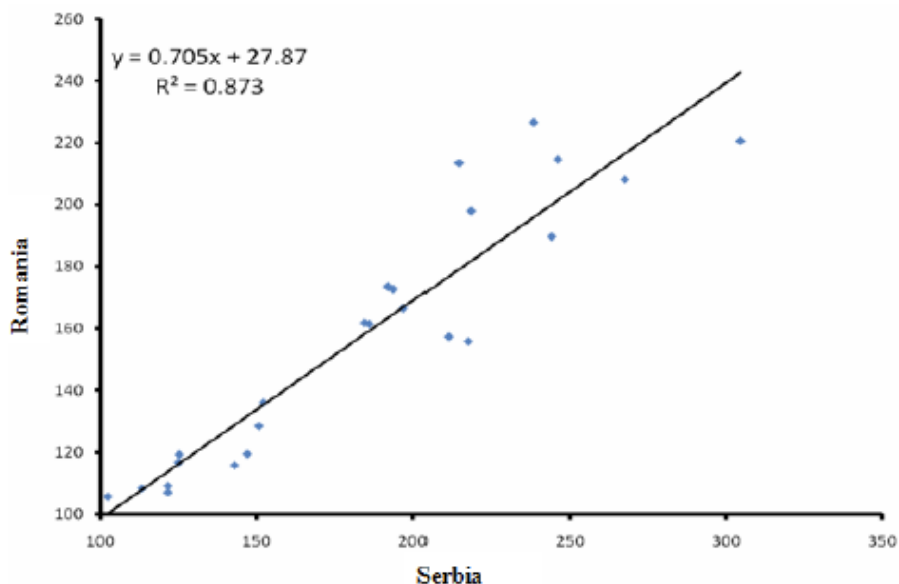
		Serbia	Romania	Bulgaria
Serbia	Pearson Correlation	1	.935	.793
	Sig. (2-tailed)		.000	.000
	N	24	24	24
Romania	Pearson Correlation	.935	1	.893
	Sig. (2-tailed)	.000		.000
	N	24	24	24
Bulgaria	Pearson Correlation	.793	.893	1
	Sig. (2-tailed)	.000	.0000	
	N	24	24	24

Source: According authors' calculation.

\*Correlation is significant at the 0,01 level (2-tailed)

Statistical analyses in Table 5 show significant correlation between spot wheat prices in Serbia, Bulgaria and Romania. Price correlation is sufficient for creating joint wheat futures market among these three countries.

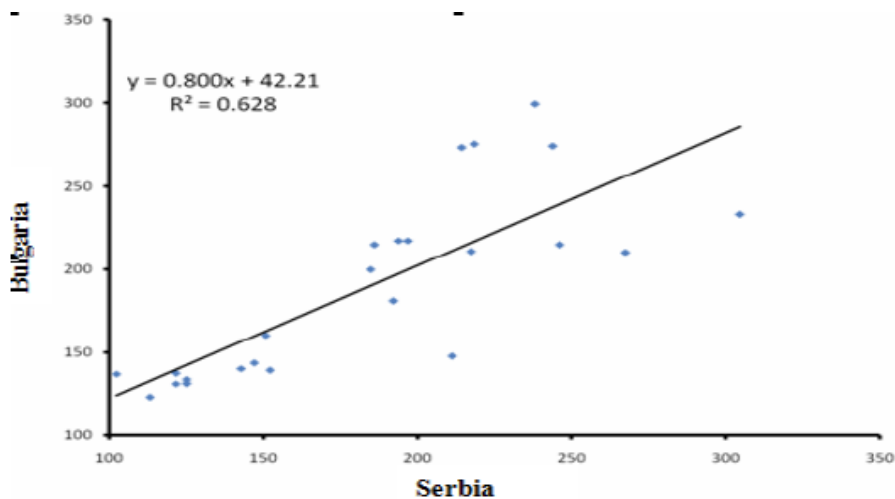
**Graph 2.** Graphical representation of wheat prices correlations (EUR/t) in Serbia and Romania, with determined linear regression and coefficient of determination, for period 2007 - 2012.



Source: According authors' calculation.

Conclusion may be drawn from analyse in Graph 2, that sufficient price correlation exist between Romania and Serbia for creation of joint wheat futures market.

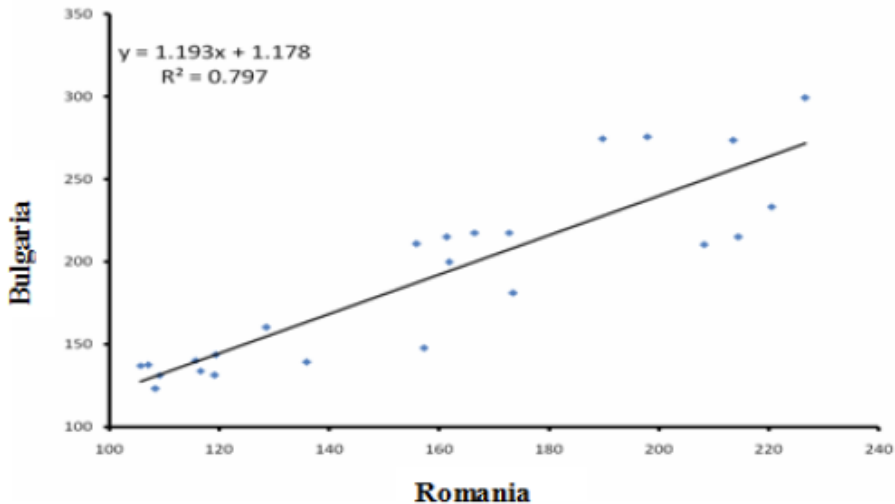
**Graph 3.** Graphical representation of wheat prices correlations (EUR/t) in Serbia and Bulgaria, with determined linear regression and coefficient of determination, for period 2007 - 2012.



Source: According authors' calculation.

Conclusion may be drawn from analysis in Graph 3, that wheat prices are less correlated compared to graph 3, but correlation is still sufficient between Bulgaria and Serbia for creation of joint wheat futures market.

**Graph 4.** Graphical representation of wheat prices correlations (EUR/t) in Romania and Bulgaria, with determined linear regression and coefficient of determination, for period 2007-2012.



Source: According authors' calculation.

Conclusion may be drawn from analysis in Graph 4, that sufficient price correlation exist between Romania and Bulgaria for creation of joint wheat futures market.

Current market information systems must be strengthened, standardized contract terms developed, assurance of contract performance established, joint clearing and settlement system, joint trading platform etc. implemented before a regional futures contract for wheat can be fully realized. An effective clearing system is most feasible in conjunction with an established exchange and with an established and functioning clearing house.

The basic essentials for introduction of a successful futures contract are:

1. Adequate crop size. According to information from Table 4 all counties have a sufficient quantity of wheat.
2. Sufficient price volatility. According to Graph 1, there is high price volatility that needs to be managed by hedging strategies.
3. Appropriate positive correlations among the markets. According to Table 4 and Graph 2, 3 and 4, there is a close correlation between the markets.
4. Supportive legislation, common EU regulation is in place.
5. Standardized contract terms. In all three countries different wheat quality standards are in use. There is a need to establish a common grain standard and a quality monitoring mechanism.

6. An effective clearing system. Serbia is only country without a legal base for establishing the house clearing system. A clearing system in Serbia and a system of clearing and settlement between the exchanges need to be established.
7. Market information systems at national levels. National governments need to further develop market information systems and disseminate information in English.
8. A mechanism for delivering goods. Warehouse receipts are important for delivery of goods. Romania needs to support the system of warehouse receipts by establishing an Indemnity fund. Bulgaria and Serbia have highly developed systems of warehouse receipts. It is recommended for all three countries to establish an electronic system of warehouse receipts as it is more secure than the paper form of warehouse receipts, carries less cost for traders etc.

For the successful development of a joint futures market requires the following:

1. Joint managerial and supervising body,
2. Liberalised market without custom barriers,
3. Common quality standards for wheat,
4. Established a system of quality control by certified laboratories,
5. A common trading platform,
6. Established clearing and settlement mechanisms,
7. Established a system of delivery.

The establishment of warehouse receipts system for delivery of goods when delivery is requested. Serbia and Bulgaria have successful warehouse receipt systems with a state indemnity funds. Romania has established a system of warehouse receipts that are not secured by state guarantees and the guarantees for delivery in Romania must be increased, otherwise the system will not offer the same guarantees in all countries, and trading participants would have to know in which country deliveries will be made, which violates the *automaticity* of trading and reduces market liquidity,

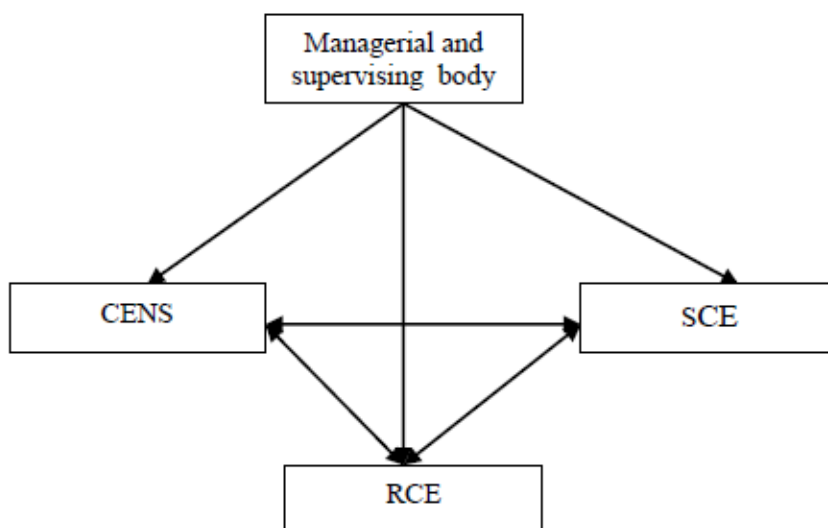
Establishment of a joint market information system that provides fair and timely reports for all participants. All three countries have to develop market information systems on agricultural products and should ensure that they can be accessed in English, which could include reports on prices, trading volume, and other relevant market information.

**Table 6.** Possible elements for wheat future contract in the Black Sea Region

<b>Wheat quality standard</b>	Impurities	max. 2 %
	Moisture	max. 14 %
	Density	Min 78 kg/HL
	Falling number	250 min.
	Protein content	11,5%
	W	160 min (ISO/ICC)
<b>Contract size</b>	3 000 T	
<b>Margin</b>	5,25%	
<b>Delivery</b>	FOB Constanta-Romania	
<b>Price</b>	US dollars	

Source: Authors' opinion.

For successful development of futures market it is essential to develop futures contract with elements common to the spot market at that region i.e. the size of contract needs to correspond to usual transportation capacity (for Black Sea spot market delivery is done by barge with capacity of 3.000 t).

**Scheme 1.** Black Sea wheat futures market - possible organisational scheme

Source: Authors' opinion.

Following the introduction of the futures contract for wheat, it would be possible to introduce futures for corn.

Grain spot market in the Black Sea region could be introduced as well. On the spot market it would be possible to trade exclusively with warehouse receipts.

Forwards on grain in the Black Sea region could be introduced as well. Seller's trading order needs to be followed with warehouse receipts and the buyer needs to deposit margins

similar to those of futures trading.

For development of a successful wheat futures market, all institutions and governments must complete their tasks.

Managing body of the Black Sea Region's futures market must be responsible for:

- Introduction of a new contracts and deciding on all elements of the contract.
- Issuing/revoking licenses to commodity exchanges.
- Suspending trade.
- Managing the system of guarantees under the EU investment protection scheme.
- Managing daily price change limit.
- Managing organizations in charge of controlling the quality and quantity of goods.
- Arbitration and penalty, all trading orders have to have the provision that international arbitration of the managing body is accepted.
- Informational function, to publish reports on: volume of trade, open/close prices, min/max prices etc.
- Calculation of referent price for daily margin settlement.
- Issues related to delivery of goods.

Tasks of commodity exchanges:

- All issues related to acceptance of trading orders and placing them in the system;
- Clearing and settlements for clients as well as clearing and settlements with other commodity exchanges on a daily basis;
- Dissemination of Information i.e. volume of trade, open/close prices, min/max prices etc.;

Government tasks:

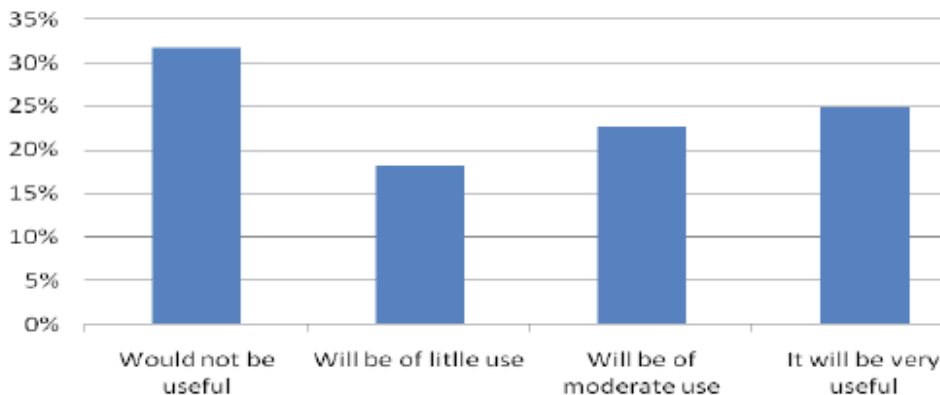
- To establish an Indemnity fund for the Romanian government, in order to improve the guarantee under warehouse receipts.
- All governments should introduce electronic warehouse receipts.
- To develop national market information systems for agricultural products, containing information on prices, predictions of crop yields, national economic indicators etc., disseminated in English.
- Maintained a liberalized market between the three countries, without export bans.
- Establish an efficient paying system between the countries, with low transaction fees.
- Establish tax policies with no taxes on investment security deposits and margin accounts etc.

For the purpose of estimating the needs for regional grain futures market, questionnaire is performed in Serbia, Romania and Bulgaria.

Survey is based on the question: Establishment of the international futures market for corn and wheat in the Black Sea Region: (1) would not be useful, (2) will be of little use, (3)

will be in moderate use and (4) would be very useful. The questionnaire is performed on 88 farms/companies in Serbia, 49 farms/companies in Romania and 51 farms/companies in Bulgaria classified according to the criteria that the value of crop production in the 2012 was more than 100,000 EUR. The questionnaire is conducted in period May-July 2013. For the selection of holdings/enterprises is used classification of Farms accountancy network data in Serbia, Romania and Bulgaria.

**Graph 5.** Analysis on the importance of introduction of wheat futures in Romania, Serbia and Bulgaria for Serbian agribusiness sector

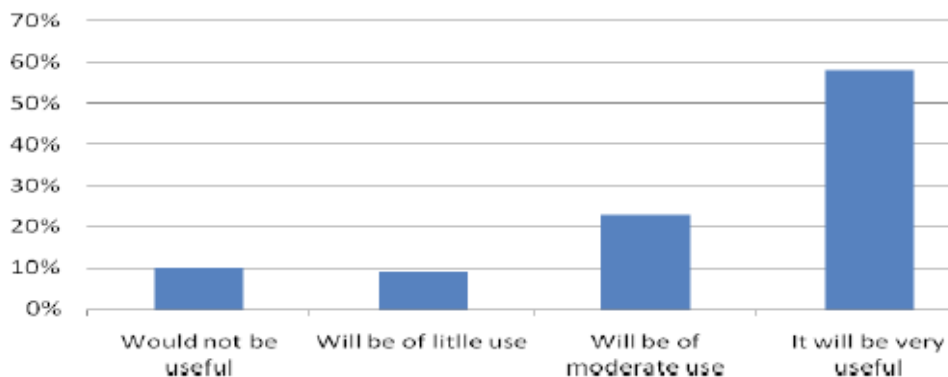


*Source:* According authors' research.

From Graph 5 can be concluded that the majority of participants 32%, have opinion that would not benefit from the futures market, while 25% believe that the common futures market was important to their business. Given that it is a market in which the transport is done by barges and futures contracts is on a large amount of goods, it is understandable that small and medium-sized agricultural enterprises do not see the option to participate in these markets. Large producers and traders will definitely be able to use futures contracts in the common market and thus ensure the price of grain, which is expected to have indirect effects on other agricultural companies that have contracted production or are otherwise related to large enterprises.



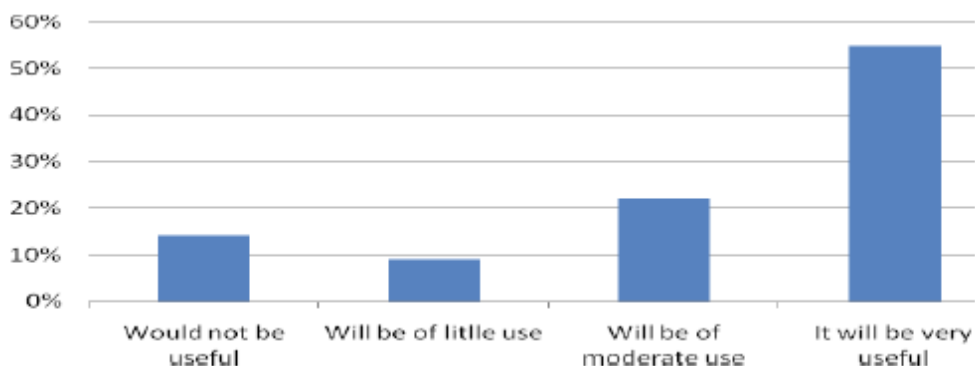
**Graph 6.** Analysis on the importance of introduction of wheat futures in Romania, Serbia and Bulgaria for Romanian agribusiness sector



*Source:* According authors' research.

Romanian agribusiness sector has been showing most interest in Black Sea Region futures market with 58% enterprises with opinion that this market will be very important, while Bulgaria enterprises are with 55%.

**Graph 7.** Analysis on the importance of introduction of wheat futures in Romania, Serbia and Bulgaria for Bulgarian agribusiness sector



*Source:* According authors' research.

Overall interest for joint futures market in all three countries is significant. Higher interest in Bulgaria and Romania is consequence that traders of agricultural products in these two countries are already using futures markets domestically and have more knowledge on benefits of this kind of markets.

## Conclusion

At the begging of the 21st century, an attempt was made with the support of USAID to establish a joint futures market for the Black Sea region countries and the countries of Central Europe. Despite the expressed needs of the industry in these futures markets, the system

has not been established primarily because the future market was planned to include too many countries from the start. That was not realistically possible, given that most countries had different payment systems, different standards of wheat quality, trade barriers between countries, not all countries have a system of warehouse receipts, etc.

A joint grain futures market would allow Romanian, Bulgarian and Serbian grain traders, as well as participants from others countries to hedge the grain price, which is of great importance since the volatility in wheat prices is high.

The analysed volatility of grain prices and the fact that a large amount of grain is contracted for delivery to the ports of the Black Sea create the need for instruments that can allow traders to hedge prices in the future.

There was the assumption that the wheat futures market could be established between Serbia, Romania and Bulgaria, and other countries can be included later in the already established market, after fulfilling the necessary conditions for inclusion.

Analyses indicated that Serbia, Romania and Bulgaria have sufficient production for establishment of future market. Prices in all three markets are highly correlated, which is a basic condition for the application of hedging strategies.

In terms of quality standards for wheat, no country now applies the same standard, which requires the introduction of a common standard for the quality of the wheat traded in the futures market.

A common electronic trading platform is essential and an associated clearing system between the commodity exchanges that on a daily basis provide clearing and settlement to the clients and between the commodity exchanges.

The basic condition for the establishment of futures, spot and forward markets for wheat is to establish a system of safe delivery. In the case of all three markets safe delivery of goods can be achieved through establishing a full system of warehouse receipts, which should be in electronic form.

After fulfilling all the above conditions, the establishment of an organizational structure with a managerial and supervisory body to manage the common market is recommended. Instead of establishing the specified body it is possible to organize exchanges by large exchange systems as CME and EURONEXT.

A joint grain futures market would allow Romanian, Bulgarian and Serbian grain traders as well traders from others countries to hedge a grain price, which is of great importance since the high volatility in wheat prices.

Hopefully the results and conclusions presented in this work will support the idea to restart the initiative to establish a futures market for delivery to the ports of the Black Sea Region.

### References

1. Aimin, H. (2010): *Uncertainty, risk aversion and risk management in agriculture*, Agriculture and Agricultural Science, Procedia 1, Elsevier, Available from: [www.sciencedirect.com/science/article/pii/S2210784310000197](http://www.sciencedirect.com/science/article/pii/S2210784310000197) (Accessed at 22 Nov 2011).
2. Allgood, C., Maynard, L., Walters, C. (2010): *Introduction to Futures Hedging for Grain Producers*, University of Kentucky, College of Agriculture, Lexington, Available from: <http://www2.ca.uky.edu/agc/pubs/aec/aec96/aec96.pdf> (Accessed at 11 June 2013).
3. Belozertsov, A., Rutten, L., Holinger, F. (2011): *Commodity exchange in Europe and Central Asia a means of management of price risk*, working paper, No. 5, FAO/World Bank, Rome.
4. Commodity exchange Novi Sad, Available from: <http://www.proberza.com/index.php?page=standardi>, (Accessed: 22.January.2009.).
5. Regional Commodity Exchange Initiative (2002), Phase 1, Vol. 1, ACDI/VOCA – USAID.
6. Regional Commodity Exchange Initiative (2002), Phase 1, Vol. 2, ACDI/VOCA – USAID.
7. Romanian commodity exchange, Available from: <http://brm.ro/index.php?page=cash-market/cereals/specifications> (Accessed: 11.10.2013.)
8. *Serbian grain fund*, data received upon request, (Microsoft Excel document received at 2 March 2013)
9. *Sofia Commodity Exchange*, data received upon request, Microsoft Word document received at 9 Sept 2013.
10. Wisner, R. (2010): *Grain Price Hedging Basics*, Iowa State University, Available from: [www.extension.iastate.edu/agdm](http://www.extension.iastate.edu/agdm) (Accessed 24.06.2013).
11. Zakić, V., Kovačević, V. (2012): *Importance of commodity derivatives for Serbian agricultural enterprises risk management*, Proceedings, Međunarodni naučni skup - Održiva poljoprivreda i ruralni razvoj u funkciji ostvarivanja strateških ciljeva Republike Srbije u okviru dunavskog regiona - očuvanje ruralnih vrednosti, IEP, Beograd, pp. 907-924.

## USPOSTAVLJANJE FJUČERS TRŽIŠTA ZA ZEMLJE CRNOMORSKOG SLIVA

*Vlado Kovačević*<sup>2</sup>

### Rezime

*U okviru ovoga rada analizirane su mogućnosti i mehanizmi za uspostavljanje fjučers tržišta za žitarice u Crnomorskom regionu. Prelaskom sa plangske na tržišnu ekonomiju pojavila se potreba u poljoprivrednom sektoru Srbije, Rumunije i Bugarske za razvojem tržišnin mehanizama koji bi omogućili poljoprivrednim proizvođačima: planiranje proizvodnje, prodaju proizvoda i osiguranje cene poljoprivrednog proizvoda u budućem periodu.*

*Početkom dvadesetog veka pokušalo se sa uvođenjem fjušers tržišta za pšenicu za zemlje Crnomorskog sliva uz podršku USAID, bez uspeha. Razlozi neuspeha projekta su pre svega u pokušaju da se u istom trenutku uključi veliki broj zemalja koje: (1) imaju različite standarde za kvalitet pšenice, (2) različite i često nekompatibilne platne sisteme, (3) carinske barijere i sl. Predlog koji je iznet u okviru ovog rada je da se uspostavi fjučers tržište za pšenicu za Srbiju, Rumuniju i Bugarsku, koje imaju liberalizovano tržište i zajedničku EU regulativu vezanu za robne derivate. Nakon uspešnog uspostavljanja navedenog tržišta moguće je pojedinačno uključivanje drugih zemalja Crnomorskog sliva na već funkcionalno tržište.*

*Očekuje se veliki obim trgovanja na regionalnom fjučers tržištu iz dva razloga: prvo velike količine svetskog prometa pšenice ugovaraju se za isporuku na lukama Crnog mora i drugo u poslednjih nekoliko godina je visoka fluktuacija cene pšenice, što nameće potrebu trgovcima za korišćenje fjučersa u cilju osiguranja cene pšenice u budućem periodu.*

*Članstvo rumunije i Bugarske u Svetskoj trgovinskoj organizaciji i Evropskoj uniji kao i status kandidata Srbije u dve navedene organizacije, daje garancije da će trgovanje između tri zemlje ostati liberalizovano. EU direktive vezane za zaštitu investitora i robna derivatna tržišta koje su u obavezi da primenjuju sve tri zemlje utiču pozitivno na mogućnost formiranja zajedničkog fjučers tržišta za žitarice.*

**Ključne reči:** robne berze, fjučers ugovori, hedžing, robni zapisi.

---

2 Vlado Kovačević, M.Sc., Kompenzacioni fond Republike Srbije, Nemanjina 22-26, 11000 Beograd, Srbija, Telefon: +381 64 65 81 519, E-mail: [vlado.kovacevic@kompenzacionifond.gov.rs](mailto:vlado.kovacevic@kompenzacionifond.gov.rs)