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A Market for Risk and not for Grain

An Introduction to Futures Markets for Agricultural Products[1]

1 Introduction

Futures markets can provide an efficient tool for farmers, traders and processing companies **to reduce the price risk associated with the trade of agricultural commodities**. Furthermore and probably even more important, a well functioning futures market **increases the price transparency on agricultural commodity markets** and provides valuable and inexpensive information for all market participants, including those who do not trade on the commodity exchange.

Futures markets for agricultural products have gained considerably in importance over the last 20 years, and futures markets have been established in an increasing number of countries – for example Hungary and Germany in the 1990s. The establishment of a futures exchange is also on the political agenda in Ukraine. This paper provides an introduction to the functioning of futures markets for those who are not familiar with this risk-management tool. It is structured as follows. Chapter 2 explains the nature of futures markets, and in chapter 3 an overview is given on how futures markets are organised. How farmers can profit from the existence of futures markets is discussed in the 4th chapter.

2 The Nature of a Futures Market: Trading Risk – Not Grain

When the idea of establishing an agricultural commodity exchange for the trade of agricultural futures contracts was discussed in Germany in the early 1990s,[2] many farmers, journalist and even scientists had a wrong perception:

[1] This is the first out of two papers on the subject of futures markets in Ukrainian agriculture. In the second paper „Prospects and Prerequisites for a Futures Market in Ukraine“ the prospects for the establishment of a futures exchange in Ukraine are discussed.

[2] Futures markets for agricultural commodities have existed since 1860 in the US. For a variety of historical reasons, commodities futures were forbidden in Germany for many decades, and it was not until the early 1990s that policy makers decided to legalise them again.

1. A first concern was that the establishment of a futures exchange has a rather negative impact on the 'small producers'. In fact, many people believed that futures only benefit big players and that these markets can worsen the situation of farmers.
2. Second, many people believed that futures markets provide for another marketing channel, i.e. that the existence of a futures market means that farmers can sell their products not only to the local elevator or processor, but also at the futures exchange.

These assessments are wrong. In fact, futures markets provide **valuable and inexpensive information for everybody in the market, especially for farmers**, who are normally not able to maintain their own market information systems. This means that futures markets especially improve the information available to farmers, thus improving their competitive position relative to big players. Second, futures markets do not provide for a new marketing channel. In fact, the basic idea behind a futures market is that of **trading risk, not agricultural commodities such as grain**. The scepticism futures markets are viewed with is probably due to the fact that they are complex and their functioning requires some explanation. This is provided in the following:

2.1 The Forward contract

The nature of a futures contract can probably best be explained by its historical development out of the forward contract. Forward contracts are widely used also in Ukraine. In a forward contract, two partners typically agree on the future delivery of a certain amount of a commodity: for example, in March a farmer signs a contract in which he promises to deliver 100t of 3rd class wheat to a trader in August of the same year. This is a private contract and the contract partners have to agree on many details individually: the amounted quality of the grain, the delivery date and location, who will deliver, and, in case one of the parties breaches the contract, appropriate sanctions. Such a contract is concluded voluntarily and has many advantages for the contractors. Both of them know about the price and the quantity delivered in advance. This enables farmers to plan their production and processors to use their storage and processing facilities more efficiently, and can, therefore, reduce their costs (processors have to provide less storage facility due to in time delivery of the grain, etc.).

On the other hand, once such a contract has been signed, it is difficult to step back from it even if the farmer cannot deliver (for example due to crop failure). This has to be distinguished from the enforceability of forward contracts. Often a situation arises in which the price has dropped compared to the expected price. In this case the buyer has an incentive not to take delivery of the commodity under the terms of the forward contract but rather to buy it on the market at the prevailing spot price. If, on the other hand the price has increased, the seller has an incentive to breach the forward contract. Of course, if one contract partner breaches the contract, the other can take legal action. But this costs time and other resources (e.g. lawyers), and there is no guarantee that the legal action will be successful. Even if it is, the losses incurred (for example due to a production standstill etc. caused by the breach of contract) may not be fully compensated.

2.2 Contract enforcement

This is the reason why a system was developed in the 1860s in Chicago that ensures contract enforcement in a simple way. Actually, this so-called clearing system is at the core of any exchange world-wide. If two partners have signed a contract in March for the delivery of 100t of grain in August for the price of UAH 500/t they employ a third and independent party. This party, called the **clearinghouse,** ensures contract enforcement. When the contract is signed, both contractors make a deposit – the so-called **margin –** with the clearinghouse. If the margin is for

example 10% of the contract volume,[3] it amounts to UAH 5,000 for the contract outlined above (10% of 100t * 500 UAH/t).

When the contract is due in August several situations can arise (table 1):

1. The market price is UAH 500/t. This means, that neither the buyer nor the seller have lost any money in comparison to the market price they expected. The clearinghouse transfers the initial margin back to the two contractors after the contract is fulfilled.
2. If the price has risen – for example to UAH 550/t – the buyer is better off. According to the contract he pays UAH 500/t for grain that is worth UAH 550/t on the spot market. Hence, he pays UAH 50,000 instead of UAH 55,000, which is to his advantage. But the seller is disappointed. He is obliged by the contract to deliver grain for UAH 500/t that he could sell for UAH 550/t. So the seller has an incentive to breach the contract. However, if he does so, the clearinghouse will not return his UAH 5,000 margin. Instead, this marging will be transferred to the buyer. Hence, the buyer gets his margin back (UAH 5,000), plus the seller's margin (UAH 5,000). Even though he is forced by the sellers breach of contract to purchase his grain on the spot market for UAH 55,000, the receipt of the seller's margin leaves him with a net payment of UAH 50,000; as if the contract had been fulfilled. Similarly, the seller receives UAH 55,000 for his grain on the spot market, but he forfeits his UAH 5,000 margin. In the end, therefore, he too is faced with the same conditions as stated in the original contract.

Table 1: How the margin system functions

Date	Price in UAH/t	Sellers position	Buyers position	Clearinghouse accounts	
				Seller	Buyer
March	Seller and buyer conclude on a contract, delivery August UAH 500/t The total contract volume amounts to UAH 50,000 Contractors deposit 10% of the contract volume at the clearinghouse			UAH 5,000	UAH 5,000
August	UAH 500/t	UAH 0	UAH 0	UAH 5,000	UAH 5,000
August	UAH 550/t	UAH - 5,000	UAH + 5,000	UAH 0	UAH 10,000
August	UAH 450/t	UAH +5,000	UAH -5,000	UAH 10,000	UAH 0

3. The opposite holds true if the price has dropped. In table 1, it is assumed that the price has fallen to UAH 450/t. In this situation the buyer has an incentive to breach the contract, but since he forfeits his margin as a result, at the end of the day both he and the seller face an effective price of UAH 500/t.

Very important: even if the buyer or the seller breaches the contract, this does not matter at all for the other contract partner, as the clearinghouse compensates the other party by exactly the amount that has been lost. The underlying mechanism is simple. If each contract partner deposits a certain percentage of the total contract volume at the clearinghouse, this ensures contract enforcement as long as the price does not change by more than this percentage. A margin of 10% (20%) enables the clearinghouse to level out profits and losses up to a price change of 10% (20%).

Of course, prices can change by more than 10% or even 20%. So it might appear reasonable for the clearinghouse to demand a much higher margin. However, it would be quite expansive for the contract partners to deposit 50% or even more at the clearinghouse. Therefore, over time exchanges developed so-called **margin-call system**. If the price on the market drops (rises) by more than 10% during the contract span, the clearinghouse asks the buyer (seller) for another

[3] How the margin is set is explained in greater detail below.

5% of the contract volume. This **margin call** ensures that at any time the clearinghouse can compensate the other party if one party breaches the contract. Changing market prices automatically trigger margin calls, and therefore profits and losses are levelled out during the contract span. This is a major difference to forward contracts, where profits and losses are levelled out on the date of delivery.[4]

2.3 The standardisation of futures contracts

The margin system with the clearinghouse is not the only feature that distinguishes the futures market from the forward market. A second important feature is the **standardisation of contracts**. The specification of a futures contract is not individually negotiated by the contract partners. Instead, the partners purchase contracts that have been standardised by the exchange. A typical contract at the Chicago Board of Trade (CBoT)[5] is the wheat contract. The so-called contract specifications are the size (5,000 bushel of wheat, whereas one bushel of wheat is 27,216 kg), the deliverable grades (No. 2 Soft Red, No. 2 Hard Red Winter and other varieties), the delivery location (for example one or more ports on the Mississippi river) and the delivery month (July, September, December, March and May). The latter means that different contracts for the same commodity are traded at futures exchanges; these contracts are identical in all but one respect, the delivery date. Hence, a participant who wishes to use futures contracts, for example in Chicago, has to decide on the delivery month and then buy or sell a contract at the exchange at the prevailing price.

2.4 Actual delivery: The exception, not the rule

The future contract certifies a commitment to deliver (seller) or to accept (the buyer) a certain amount of a certain product at a certain place and point in time (the delivery month). One can easily imagine that this commitment can be traded. It does not matter for the buyer A whether seller B or C is the contract partner. And for the seller of a contract D, it does not matter whether buyer E or F promises to take delivery. Hence, the once concluded, futures contracts can be traded.

Furthermore, buyers and sellers are seldom interested in actually fulfilling their contracts; they rarely use futures markets as a means of trading physical commodities. Instead, they use futures markets as a **risk management tool**.[6] A farmer who in the month of March sells a September wheat contract for UAH 500/t knows that he will end up receiving UAH 500/t for his wheat, regardless of how the spot price develops in the interim. Even if the spot price has fallen and he only receives UAH 450/t, he will be reimbursed by the mechanism described above for the difference of UAH 50/t. So selling a futures contract is a means of '**locking in**' a price. This reduces risk and allows the farmer to concentrate on doing what he does best (farming), rather than worrying about prices. Similarly, the buyer of a contract knows that he will not have to pay more than UAH 500/t in September, even if he buys the grain on the market and the price has risen to UAH 550/t. He will receive the margin from the seller and therefore face an effective price of UAH 500/t. This enables the buyer – a trader or a processor, for example – to plan ahead as well.

Note that both the buyer and the seller will end up trading the actual physical grain on the spot market. To cancel their respective commitments to buy and sell on the futures market, they

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[4] In practice, the collection and management of margin calls is more complicated. What is important is that the enforcement of the contract is ensured at any point in time. For a discussion of the clearing system see for example Chicago Board of Trade (1997): Commodity Trading Manual. Chicago.

[5] See www.cbot.com.

[6] This process is called 'hedging' and explained in detail in section 4.

will respectively sell or buy offsetting futures contracts shortly before the due date. For example, the farmer will cancel the September contract that he sold in March by buying a September contract shortly before September contracts expire. The farmer will thus hold two contracts, one in which he promises to deliver, and one in which he promises to take delivery. These commitments offset one another, leaving the farmer with no net commitment or 'open position' on the futures market. The buyer will do the opposite to cancel his commitment. Actually, on most futures exchanges world-wide less than 2% of all the contracts are concluded with physical delivery. **Hence, the futures exchange is not a new marketing channel for commodities but rather a place where the risk of falling or rising prices is traded!**

2.5 Summary: The difference between a forward and a futures contract

The **differences between forward contract and futures contracts** are summarised in table 2. They include standardisation, tradability, integrity (how contract enforcement is ensured), payment, fulfilment, transaction costs (all costs that are accompanied with the search for a contract partner, negotiations, concluding a contract and contract enforcement), and risk.

Table 2: Characteristics of forward and futures contracts

Characteristic	Forward contract	Futures contract
Standardisation	Not necessarily standardised, but mostly concluded among the contractors	Quantity, quality, place and time of delivery are standardised
Tradability	Almost no tradability, i.e. contracts can not be traded on the market	Contracts can be traded. Tradability depends of the trade volume at any exchange
Integrity (contract enforcement)	The same as in any other trade contract	Is guaranteed by the exchange, i.e. the clearinghouse
Payment	Normally with delivery	During the duration of the contract via the margin mechanism
Fulfilment	Physical	Settlement, i.e. taking out an off-setting position
Transaction costs	Individually negotiated	Brokerage fee and interest rates on margins
Risk	Contract fulfilment	The so-called basis risk and some others

Source: Nelson, R., Forward and Futures Contracts as Preharvest Commodity Marketing Instruments. "American Journal of Agricultural Economics", Vol.67 (1985), S.17.

Nevertheless, futures contracts are not perfect substitutes for forward contracts. Instead, a functioning **futures market can complement the forward market**. A trader, for example, might be reluctant to offer a forward contract to a farmer for the purchase of a certain amount of grain after the harvest, because he does not know what the price will be following the harvest and is, therefore, confronted with price risk. If, for example, the price after the harvest is lower than was concluded in the forward contract, the trader will incur a loss. A functioning futures market enables him to reduce this price risk, as outlined above, and this will make him less reluctant to offer forward contracts to farmers, all other things being equal. Hence, offering forward contracts to farmers is less risky with a functioning futures markets than without. This is why the existence of futures markets can even increase the use of forward contracts.

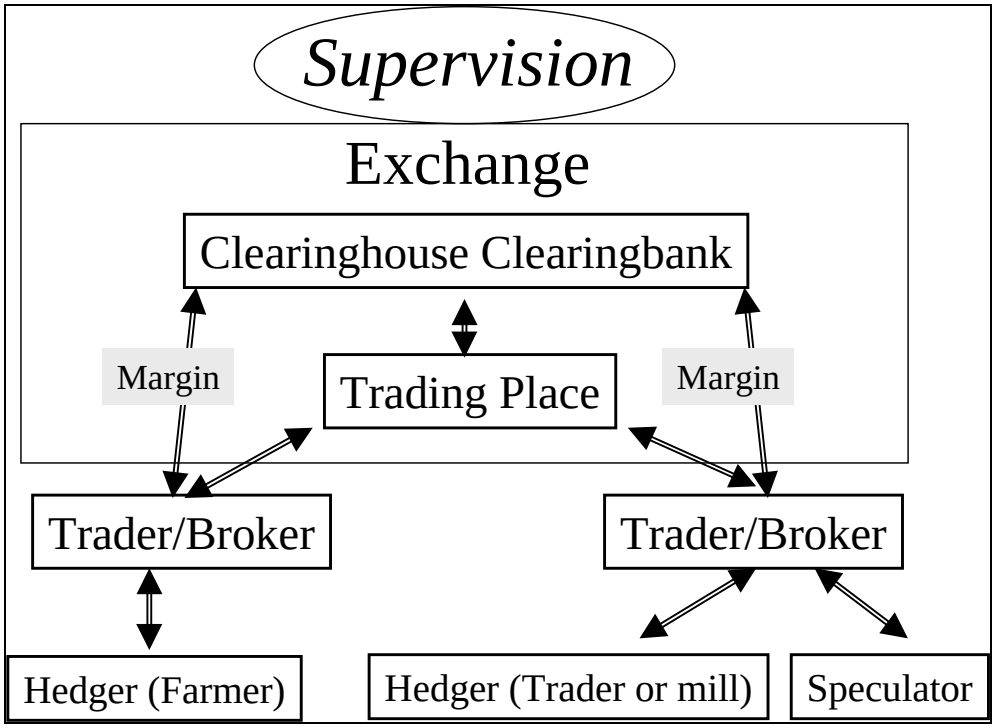
3 Futures Markets Organisation

An exchange where futures contracts are traded is essentially organised like any other exchange. Its heart is the trading place where offers are made by so-called **brokers**.[7] A contractor (for example farmer, food processor or trader) who wants to conclude a contract at the ex-

[7] Brokers are sometimes called traders. The word 'trader' used in this sense should not be confused with trader in the sense of a commodity trader such as Cargill or Nibolon.

change first has to approach a registered broker. The broker is responsible for the contractor's margin and has to ensure *vis-à-vis* the clearinghouse that all margins and margin calls are paid in time. The broker then enters a corresponding offer on the exchange. A typical order is, for example, that the farmer asks the broker to sell a contract (e.g. wheat, delivery March) within a certain price range – e.g. from UAH 480/t to UAH 500/t – or not to sell at a price lower than UAH 500/t. The broker then looks for another broker who wants to buy a March wheat contract within the same price range. The brokers meet and trade contracts in a so-called 'pit' at the CBoT. In Hannover in Germany, on the other hand, a computerised trading platform was established. The computer system matches two offers if the brokers have put the same price or price range into the system. If so, a contract is automatically concluded.

Figure 1: How an futures exchange is organised



Those who trade on an exchange can be divided into two major groups:

1. **Hedgers**, as discussed above, are those market participants who have or will have (or need) the physical agricultural commodity at some future date and who are interested in reducing the associated price risk (hedging). Their aim to buy or sell futures contracts to offset the risk of changing prices on the spot market. In agriculture, farmers, traders and processors use futures to protect themselves from changing spot market prices.

2. **Speculators** take on the risk that hedgers wish to avoid. Speculators buy or sell contracts based on their beliefs that prices will either rise or fall; speculators believe that they know 'where the market is going'. Driven by potential profits, speculators provide the marketplace with an essential element – **liquidity** – enabling hedgers to buy or to sell contracts whenever they wish. This liquidity is important because it guarantees that hedgers will always be able to buy or sell offsetting contracts and thus close any open position on the futures market. Furthermore, to make sound forecasts of future price developments, speculators have an incentive to collect as much **information** as possible on the agricultural market in question. This behaviour is very important, because whenever a speculator manages to find a new piece of information, his subsequent trading activity on the futures market effectively makes this information public. If, for example, speculators receive plausible new information that

the next wheat harvest in China will be smaller than anticipated, they will expect world market prices to increase. Hence, they will buy futures contracts today in the hope of selling them later at higher prices. These purchases, however, will drive up the prices of those futures contracts. In effect, therefore, the speculators' information will be incorporated into prices on the futures market, making it accessible to all. The price of a futures contract can therefore be seen as a sort of **forecast** that at any given point in time incorporates all the relevant information available on the market in question.

Trading on futures exchanges is not free of charge. First, the broker and the exchange have to be reimbursed for their services. They change **fees** that generally amount to some 0.5% of the contract volume, but can differ depending on the size of the orders and the market structure. Furthermore, the hedgers and speculators have to deposit the margin. As a rule, this deposit does not bear any interest payments. Hence, the margin and margin calls reduce liquidity and profitability in form of the foregone interest payments. At some exchanges the clearinghouse accepts bank or other securities such as shares as deposits.

4 Futures markets – a useful tool for farmers and others

4.1 Futures markets increase market transparency

Futures markets are an efficient tool for all market participants that **increase market transparency and provide price forecasts** that would not otherwise be available in this form. A good example is that of the Netherlands. Dutch farmers who sell pigs for slaughtering often use the price quotation at the Amsterdam exchange (AEX) as a basis for their negotiations with the slaughterhouse. The AEX quotation is readily available via telephone or internet. The availability of this information to all participants reduces the information advantage that large traders or market participants would otherwise have *vis-à-vis* small farmers. Futures markets also help farmers to make better price forecasts. Farmers can used this information to plan their production, for example to reduce the acreage of those crops for which a falling price is expected.

The 2000/01 crop season in Ukraine provides a good example in which such information would have been very useful. A functioning futures contract for 3rd class wheat, delivery September, could have had the following effects:

1. Market participants would have been confronted with the most up-to-date information available throughout the year. They would have recognised much earlier in the year, for example in December or January, that the price for wheat would drop dramatically after a bumper harvest, because of Ukraine's expected change from a net import to a net export position for 3rd class wheat.[8]

2. Especially when it became clear in March and April that the spring-seeding campaign was quite successful – at this time the MAP increased its harvest forecasts to 35 mill. t – market participants at the exchange would no longer have accepted a price above the world market price. Hence, the price at which the September contract is traded would probably have dropped to UAH 550-600/t in early spring.

3. **Very important:** This would not have changed the prices prevailing on the spot market in the first half of 2001. Ukraine was in an import situation for milling wheat. Hence, with or without a futures market mills had to pay the world market price plus transport costs plus the import tax on grain.

[8] For a discussion of this problem see von Cramon-Taubadel, S. (2001): Price determination and government policy on Ukrainian grain markets. In: von Cramon-Taubadel, S., S. Zorya and L. Striewe (eds.): *Policies and Agricultural Development in Ukraine*, Shaker Verlag Aachen.

4. Nevertheless the falling price of the September futures contract for 3rd class wheat **would have provided valuable information** on the prices to expect after the 2001 harvest. This information would have been available to all market participants: farmers, traders, banks, input suppliers and politicians.

5. In general, such information enables farmers to make more efficient decisions on input use and, therefore, the amount of grain to produce. It helps mills and other processing companies in their price negotiations with traders and farmers, and provides banks with useful information on the revenue farms can earn and, therefore, on their creditworthiness. Indeed, in some cases in Western countries, banks will insist that a farmer hedge his crop on a futures market as a precondition for providing this farmer with credit.

However, its is important to consider:

1. Futures markets do not have a systematic impact on the price volatility on agricultural commodity markets. By improving the information basis available to all market participants they can lead to more efficient production, storage and marketing decisions. While this might have the effect of leveling out some price peaks, the extent of this effect is difficult to assess. But the existence of futures markets definitely does not change key market fundamentals that determine spot prices such as Ukraine's net trade position or the level of world market prices.

2. Futures markets do not provide anything resembling an intervention price system. The situation on the grain market in 2001 is a good example. A futures market would have 'predicted' the price collapse earlier, but it would have done nothing to stop this collapse. Hence, even if there were a futures market in Ukraine, prices for grain would have been the same after the 2001 harvest.[9]

4.2 Hedging or how to reduce price risk from the farmers perspective hedge

As outlined above, hedging is the most important motive for using futures markets. **A typical hedge** will be explained in the following using a simple example. Assume that after the harvest in October 2001, prices for wheat are rather low at UAH 545/t. A Ukrainian farmer therefore decides not to sell but rather to store 100t of wheat until next year, in the hope that prices will climb. Of course, in October 2001 he does not know what price will prevail next March, for example. Hence, by deciding to store his wheat the farmer is actually **speculating**. Since storage is costly, the farmer will incur a profit only if the price increase between October and March is higher than his costs of storing, the opportunity cost of the capital that is tied up in the stored wheat, and the risk that pests etc. might damage this wheat. Since there is no way of knowing for certain that prices will increase by at least this amount, storage is risky.

One option that the farmer could use to reduce this risk is to conclude a forward contract, delivery March 2002, with all the accompanying advantages and disadvantages. Another option would be to sell a futures contract. Assume that a well functioning futures exchange exists in Ukraine. This exchange offers a contract for 100t of 3rd class wheat, delivery date March 2002. At the end of October 2001, the domestic milling wheat price in Ukraine was quoted at UAH 545/t.[10] Assume that the price quoted at the end of October for the March contract is higher – UAH 650/t. According to the farmer's calculations, this price is high enough to covers all his storage costs and provide him with a reasonable profit. Hence, via his broker he sells a March

[9] It is conceiveable that the existance of a futures market for wheat would have led to a less abrupt fall in prices immediately following the 2001 harvest, by making it possible to hedge grain storage and, thus, eliminating the need for some 'desperation sales' that are reported to have taken place.

[10] UkrAgroConsult 45, 2001.

futures contract on October 25. Of course, the farmer has to deposit a margin. For simplicity the margin is assumed to equal 10% of the contract volume. Hence, the farmer deposits UAH 6,500 with the clearinghouse.

Time goes by and prices change. At first, in November and December, prices increase, reaching UAH 700/t. This means that the spot price (UAH 700/t) has increased to a level that exceeds the price at which the farmer has committed himself to deliver in March (UAH 650/t). However, since the difference between these two prices (UAH 50/t) is less than 10% of the futures price (50 equals only 7,7% of 650), it is covered by margin.[11]

In January the government decides to cancel the import duty on grain due to an emerging shortage of milling wheat. As a result, the domestic wheat price falls back to UAH 600/t where it remains for the next few months. At the end of February the farmer decides to sell the wheat he has stored. At the prevailing spot price of UAH 600/t, his revenue amounts to UAH 60,000. However, he still owns the March 2002 futures contract; this contract commits him to delivering 100t of wheat in March for a price of UAH 650/t. To cancel this commitment he now buys an offsetting contract. This contract now costs UAH 600/t, the prevailing spot price of wheat.[12] Since he originally sold for UAH 650/t and now buys for UAH 600/t, the farmer realises a profit of UAH 50/t on the futures market. This translates into an additional UAH 5,000 of revenue, leaving him with total revenue of UAH 65,000 (60,000 from the sale of grain and 5,000 from the clearinghouse), which is exactly what the farmer expected when he 'locked in' the price of UAH 650/t on the futures market in October. Of course, since he has no open commitment on the futures market, the exchange returns the margin of UAH 6,500 originally deposited in October. Table 3 provides an overview of the transactions associated with the hedge.

Table 3: A typical hedge transaction using futures

Month	Transaction	Price on the spot market	Price of the March 2002 futures contract	Futures price minus spot price (basis)	Revenue (costs) in UAH
Oct. 2001	Sell futures contract	UAH 545/t	UAH 650/t	UAH 105/t	(6,500) *margin deposit*
Mar. 2002	**1)** Buy futures contract **2)** Sell wheat on spot market	UAH 600/t	UAH 600/t	UAH 0/t	**1)** 5,000 *futures price difference* 6,500 *margin is returned* **2)** 60,000 *sales revenue*

In this example we have assumed that as the expiry date of the futures contract approaches (in other words, as this contract approaches so-called 'maturity'), the price of this contract will equal the prevailing spot price (UAH 600/t). The difference between the price of a futures contract on its date of maturity and the spot price on this date is referred to as the **maturity basis** (see table 3). The maturity basis will tend to equal 0 because if it does not, market participants will either buy or sell futures contracts with a view to delivering them with physical commodities that have been sold or bought on the spot market, respectively. For example, if the spot price equals UAH 600/t and the futures price equals UAH 650/t shortly prior to maturity, a trader can sell futures contracts and deliver them with wheat purchased on the spot market, making a profit of UAH 50/t (minus trasaction costs). Since many traders will want to take advantage of this riskless opportunity to make profits (this is referred to as **arbitrage**), the demand for

[11] Hence, no margin call is triggered. A margin call would be triggered in this example if the spot price were to climb above UAH 715/t (110% of 650). In this event a margin call would be necessary to ensure that the farmer has no incentive to breach his futures contract.

[12] We explain why this is the case below.

grain on the spot market and the supply of futures contracts will both increase. This will drive the spot price up and the futures price down until, in equilibrium, these prices are equal and the maturity basis is 0.

If the spot price had risen to UAH 700/t (i.e. a level above the futures price he 'locked in' in October), the farmer would have had to buy his offsetting contract for UAH 700/t (based on a maturity basis of 0). He would have thus realised a loss of UAH 50/t (=700-650) or UAH 5,000 on the futures market. However, he would have received UAH 70,000 on the spot market. Again, he would have ended up with a net revenue of UAH 65,000 from selling 100t of wheat. Regardless of how the spot price develops, by hedging his wheat on the futures market in October, the farmer is able to guarantee himself the price of UAH 650/t. In retrospect he might regret having hedged, because the spot price is higher than UAH 650/t, but *ex ante* (i.e. in October 2001) it is just as likely that the price might fall below UAH 650/t, leaving him with a loss. If he does not wish to speculate, hedging provides a rational and efficient alternative.[13]

5 Summary

As in other countries where futures markets were unknown until recently – Germany is a good example – the nature and the functioning of future markets are often not well understood in Ukraine. In this paper we have presented a brief overview of how futures markets work and what they can and cannot be expected to provide. The following conclusions can be drawn:

1. Futures market developed historically and logically out of forward contracts. Unlike forward contracts, futures contracts are standardised, i.e. the amount, quality, date and place of delivery of the product in question are standardised by the exchange.
2. Futures contracts are traded at a futures exchange, which provides both the trading place and the so-called clearinghouse function. The clearinghouse is, among other things, responsible for the so-called margin and margin call system. The margin is a deposit made by market participants that ensures contract enforcement at any time.
3. Futures markets do not provide for a new marketing channel. In fact, the basic idea behind the use of futures markets is that of trading risk, not physical agricultural commodities. On futures markets risk is transferred from those who are not willing to bear it, such as farmers, processors or traders, to speculators who are.
4. Futures exchanges provide farmers, traders and processors with a tool for reducing the price risk associated with dealing in agricultural commodities. This mechanism is called hedging. Hedging on futures markets costs some 0.2 to 0.5% of the contract volume. Furthermore, since hedgers are required to deposit margins, hedging does reduce their liquidity.
5. Futures markets provide valuable and inexpensive information for everybody in the market – especially for farmers, who are normally not able to maintain their own market information systems. Futures markets therefore tend to improve the relative competitive position of farmers and other 'small players' on agricultural markets.
6. Futures market do not systematically reduce price volatility on agricultural commodity markets. They also cannot provide anything resembling an intervention price system. Hence, the existence of a futures market in Ukraine would not have prevented the price drop that occurred after the harvest 2001.

L.S., Lector R.G. and S.v.C.-T., December 2001

[13] Whether a hedge functions perfectly depends on some preconditions, which are not fulfilled in Ukraine. This is discussed in the second paper „Prospects and Prerequisites for a Futures Market in Ukraine".