Retrospective Analysis Of Basic Risk As A Part Futures Trading In Ukraine

Nadiia P. Reznik, Serhii V. Dolynskyi, Nadiia Y. Voloshchuk

Abstract: Consider the dynamics of futures prices for wheat, maize, barley and the main patterns of change. Analysis of spot prices for wheat, corn and barley on the spot market of Ukraine. Established baseline risks of futures trading on foreign exchanges because of the spot price of wheat, corn and barley in Ukraine.

Index Terms: Hedging, Futures Prices, Spot Prices Basis.

1. INTRODUCTION

For the implementation of hedging in the futures markets should be considered spot prices as they affect the final result of the implementation of price insurance risks. The primary purpose of hedging – it just neutralizes the negative impact of price changes. Hedging – selling or buying in the futures market in order to pre-install for cash at the time of delivery. Manufacturers and owners of elevators hedging to protect the value of grain are not harvested and stored in repositories by falling prices; in other words, they set the selling price for their grain. Exporters were hedging in order to keep the cost of grain at its agreement to sell it. Processors were hedging themselves when the expected increase in raw material prices, as well as to protect themselves from falling value of their inventory. Price risk has become the main feature of contemporary commodity and financial markets. Globalization of world commodity and financial markets leads to rapid changes and uncertain business conditions. The world globalization processes influence international and domestic markets. Under current circumstances, the derivatives market provides efficient ways for price risk hedging within the market economy. That's why it is essential to take into consideration the contemporary state and perspectives of the derivatives market in Ukraine. The study of primary risks involved in such thorough scholars: A. Hriaznova, Yu. V. Ruban, A. Sokhatska, M. Shpichak, O. Sydorenko. The issue remaining baseline assessment of risk in trading futures contracts.

2 THE PURPOSE OF THE STUDY

Basic risk assessment as part of futures trading.

The main material. With the implementation of futures trading, there are always primary risks. Basis – this is the amount by which each day the local cash price of the goods above or below the current futures prices for a given month of delivery. If the participant discusses the grain market basis, it involves primarily the difference between the local cash price and the futures price for delivery next month [1]. The basis is positive, negative, zero. Basis varies with factors affecting the spot and futures prices. To describe the dynamics of the time base used by particular terms. We were strengthening the basis used to describe the change of basis, where available price rises over the date on futures prices. Weakening basis occurs when there is reduced the relative price on the futures price for a specified period [2]. Concerning changes in the basis used and characteristics such as expansion and contraction basis. When the base is moving toward zero estimates say that it is shrinking: the absolute difference between existing and futures prices becomes narrower. Expanding the base is when it goes from the zero lines and the absolute difference between existing and futures prices rise. Besides supply and demand basis is also influenced by seasonal fluctuations. Basis of real goods expanded during specific periods of the season sales and shrinking in others. There are many methods of recording basis. To record the basis used two formats: tabular and diagrammatic (graphical). The tabular format is real or just record available prices, futures prices and basis. The graphical notation base creates a visual image of the information received from the base. An important feature is the basis of the frequency of his behaviour for the specified periods. The uncertainty of what will be the basis of a specific month in the future is called basis risk. That is why the results of hedging are not always possible to predict with an accuracy of 1 cent. However, the basis can predict significantly more likely than inflation because hedgers are willing to assume a relatively small basis risk and avoid the danger of unforeseen price changes.

---

- Nadiia P. Reznik, Professor, Doctor of Economics, National University of Life and Environmental Sciences of Ukraine, Ukraine, e-mail: nadyareznik@ukr.net
- Serhii V. Dolynskyi, Assistant Professor, PhD, Karpatian Institute of Entrepreneurship of Open International University of Human Development “Ukraine”, Ukraine, e-mail: lubovdolynska@gmail.com
- Nadiia Y. Voloshchuk, Assistant Professor, PhD, Karpatian Institute of Entrepreneurship of Open International University of Human Development “Ukraine”, Ukraine, e-mail: nadezdavolostka@gmail.com
If we display the basis for several years in a diagram can see seasonal and historical changes. We can also see the highest and lowest level for a given period and the average values. Maize is a significant culture, and trading in these products have character liquidity, this is the main reason for its consolidation as commodities (Figure 1). Chicago Mercantile Exchange contributed to the emergence of stock trading wheat futures and spot price base from the beginning to the present time is a landmark Gulf delivery basis FOB. In 2010/2011 and 2011/2012 marketing years base on the Chicago Mercantile Exchange fluctuated significantly in the smaller range compared to the futures price fluctuations, indicating a high correlation between the spot and the spot market. Average daily basis during the analyzed period 28 us $/ton, the average price of futures on the Chicago Mercantile Exchange about 227 $/t. So we can conclude that the average basis is futures market, all the above components, we require detailed research and thorough analysis of their successful implementation depends directly on operational efficiency. Although the mean change of basis and futures prices are almost the same size, and yet the Figure 2. Futures, spot prices, and the basis for corn (Matif).

The picture shows us the possibility of avoiding the risks of adverse price changes [3]. Wheat on the Chicago exchange as corn traded lower spot prices as we have noted is characteristic of it (Fig. 3). Changing the base compared to the futures price varies the considerably smaller range. Maximum futures price for the analyzed period of 380 US $/ton, minimum - $180 / t, range of base vibrations from 0 to 50 $/t. The average futures price for the period, $304 / t, base - $28 / t, which is 9 %, it indicates the need to account for hedging basis risk is within a given percentage. The correlation coefficient between the futures price and basis of 0.42 in our case in transactions aimed at avoiding price risk, the figure indicates the possibility of their implementation.

During the period from 2001 to 2011 wheat futures on the stock exchange Matif varied within the range 290 EUR / t and EUR 100 / t, while the spot price peaked at a point 295 euro/ton, minimum - 90 EUR / t (Fig. 4) Maximum base 44 € / ton, minimum - 36 EUR / t The range of fluctuation futures price 190 euro / t, basis moving within the EUR 80 / t The average futures price from 2001 to 2011 amounted to 153.96 EUR / ton, spot price - 154.90 € / t and base - 0.93 € / t Absolute average basis, about 4 euros / t, which is low in comparison index is 2.5 % and the average futures price.

![Figure 1. Futures prices and the basis for corn (CBOT).](image1)

12% of the average price. The correlation coefficient between the futures price and basis of 22%. Basis for Exchange Matif characterized in that the futures price in most cases exceeds the spot and reverse the situation for the analyzed our period (Fig. 2) was in 2005 and 2008, the maximum base was about 25 euros / t, and the minimum about 50 € / ton, in other words, corridor basis EUR 75 / t Max price 260 € / t and a minimum of EUR 100 / t. The correlation coefficient between spot and futures prices 0.91. The average spot price for the period we analyzed 141 euro/ton, the futures price is 147 euro / t Basis - 6.5 euro / t, indicating that the average exceed futures price over spot. Mean absolute basis 13.4 € / t, indicating the size of the base that must be considered when implementing hedging in the stock market for agricultural products. Compared to corn futures on the CBOT exchange for Matif are characterized by high volatility basis that the course displayed on liquidity. It should also note that the CBOT, futures price is usually lower spot, and the Matif the contrary, it indicates the market in terms of psychological characteristics. When introducing a

![Figure 3. Futures prices and the basis for wheat (CBOT).](image2)

![Figure 4. Futures, spot prices, and the basis for wheat (Matif).](image3)
The correlation coefficient between the futures price on the stock exchange Matif and spot price on the coast of France (FOB) 0.99, which is positive in terms of the implementation of hedging. The correlation coefficient between futures and spot price basis and is close to zero. From April 2010 to May 2012 futures price fluctuations for barley (Matif) occurred within 100 euros / t and 290 € / ton and spot -91 Euro / t and 213 € / t. Range of base 4 € / t to -108 € / t. The average futures price for barley 233 EUR / t basis at -53 € / t, which is about 23% (Figure 5). This relatively high which prevents successfully apply all methods of insurance price risk through futures trading, especially adverse appear in July 2011 and January 2012. Since March 2012 there has been the lowest basis, we believe that it is caused by a wait both speculators and hedgers. The correlation coefficient between futures and spot prices of barley - 0.74. Average price change from the previous day 0.24 EUR / t basis - 0.02 € / t. The absolute value of daily changes in futures prices for barley 2.64 EUR / t basis - 3.17 € / t. The country at this time there is no futures market for agricultural products, and we calculate a basis given the futures prices of corn, wheat at CBOT and Matif. A spot price is Odessa delivery basis FOB. Futures prices for corn Matif of 2008 to the first half of 2012 were almost always higher than those for CBOT (Figure 6). Average basis for each day, taking into account the futures prices for corn Chicago Mercantile Exchange, was – minus 21.8 $ / t and Matif - minus 62.5 $ / t. This makes it possible to said that corn futures prices on the Chicago Mercantile Exchange and Matif are almost always higher than the spot price in the country. This situation is called contango situation and confirms the proximity of the base in the country to the European. It is Matif typical situation where futures prices are higher than spot, and the Chicago Mercantile Exchange the situation is reversed - bekvardyasn. The correlation coefficient between futures prices for corn on the CBOT and Matif quite high - 0.93. Interestingly, the correlation coefficient between futures prices on the CBOT and Matif and spot price in Odessa (FOB) is also high and are respectively 0.84 and 0.88. The range of fluctuation base is quite large and almost to the difference between the maximum - 301 $ / t and minimal - 120 / t price indices for the period [4].

Research on wheat futures, particularly interesting in the context of the implementation of the sixth June 2012 trade data tool at CME Group. As the first month of trading this instrument, its liquidity could be better, due to the unfortunate calculation of all factors.

The future price of corn (CBOT, Matif) and spot price in Odessa (FOB) correlation coefficient between the bases and the CBOT Matif lower -0.75. Maximum value basis CBOT - $ 67 / t, and the minimum - $ 95.
of change in the futures and spot prices. Moreover, the situation when the change of basis is changing futures and spot prices is not favourable for insurance pricing risks. Futures contracts for barley urgent for our country, because this culture is suitable for cultivation and is one of the leading. That the European Union is the main competitor of Ukraine on barley in foreign markets. In the European Union, Ukraine competitors in the world market of barley are Russia, Australia, Canada, USA. A futures contract which is the base of barley Exchange Matif inferior liquidity corn and wheat. From 2002 till 2012 spot price for barley in the port of Rouen (FOB) varied in the range of $ 97 / t to $ 377 / t, and in Odessa from $ 80 / t up to 295 $ / t The difference between spot prices in Ukraine and France has been since 2007, and the maximum value of 210 $ / t have a negative index indicating no formation of the domestic market and the need for its regulation. Moreover, with the introduction of barley futures on the exchange Matif in late 2009, the difference between the spot prices for barley in Ukraine and France began to decline and by mid-2012 moved in the same range. We believe this is primarily due to a greater awareness of producers and intermediaries, which has achieved through the introduction of futures trading for barley in the European Union. Our calculations passed based on spot prices and futures prices for barley in France showed that its maximum value was $ 168 / t, minimum - $ 54 / t, which is a wide range in comparison to existing market (Figure 8). Basis for barley based on spot prices in Odessa and futures on Matif calculations show ranged in a smaller range, the maximum base - 61.5 $ / t, minimum - 54 $ / t So based on our results hedge the risks of changes in the price of barley in the country is possible by a contract that has traded on Matif, more so in specific periods of fluctuations base in France happened more extensive range than in Ukraine.

3. CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

Insurance risks of changes in prices for agricultural products in Ukraine by trading futures contracts on foreign exchanges are impossible, because the primary risks are very high, confirming comparatives prices for wheat, corn and barley Chicago Mercantile Exchange (CBOT), the French exchange Matif and spot prices in Odessa. Analysis of international and domestic exchange market shows that due to current exchange derivatives turned into the main centres of pricing and represent a promising field of investment capital and transfer of trade and financial flows. The last two decades a significant source of capital allocation, along with such traditional investment instruments, as securities, bonds, real estate, most began using derivative instruments. Today, the increasing volatility of international financial and commodity markets and the availability of projected derivatives markets offer new opportunities to develop strategies required to protect against adverse changes in market conditions and profit. This active use of derivatives leads to the rapid growth of investment in these markets. Thus, derivatives now play an essential role in the development of long-term stock exchange market trends by providing the following:

- globalization of world stock, commodities and financial derivatives markets;
- consolidation and universalization of stock trading;
- expanding the range of tools in the stock market derivatives, provided by the rapid development of financial engineering industry;
- to increase the liquidity of the derivatives market, which had on creating a shared trading platform between the various world markets;
- the dominance of the global OTC market on stock exchange and stock market financial derivatives on commodities;
- reduction of the share exchange agreement, ending the supply of goods and the transformation of the stock market in the financial pricing institution;
- expanding the membership of exchanges, especially those with a class of speculators who grows through an interest in the use of instruments of commodity exchanges investors;
- liberalization of trade mechanism and regulation;
- electronization of all operations on derivatives markets;
- the impact of globalization of world derivatives markets on the activation of development in countries with developing economies.

Considering the trends mentioned above in the modern world exchange derivatives market is necessary to note the need for further development of the domestic exchange derivatives trading by developing organizational and economic conditions, the introduction of new types of financial derivatives on the stock, and essential commodity underlying assets — this required consolidation of all participants exchanges market as commodity and finance. The spread of electronic exchange trading will only increase the consolidation process in the domestic derivatives market and then go to a global level.

REFERENCES