

FETDE 2020
International Conference on Finance, Entrepreneurship and Technologies in
Digital Economy

HEDGING MARKET RISKS

Liliy Kurmanova (a)*, Diana Kurmanova (b), Elvira Nurdavliatova (c)

*Corresponding author

(a) Bashkir State University, Ufa, Russia, Kurmanova_ugaes@mail.ru

(b) Institute of international economic relations, Moscow, Russia, kdiana09@mail.ru

(c) Bashkir State University, Ufa, Russia, nurdavliatovaelvira@mail.ru

Abstract

In the context of the increased complexity of the global financial system, a special role in risk management is given to hedging market risks as an effective mechanism for distributing risk among economic agents. Hedging is an operation that complements the normal business activities of industrial and trading companies, the essence of which is to manage possible risks associated with financial losses due to sharp fluctuations in market prices. The scientific community has not developed a common approach to understanding the nature of hedging and the place of this method in the risk management system. The article examines the current state of the Russian market of derivative financial instruments based on analytical data from the Bank of Russia and the Moscow exchange, and provides recommendations for its further development. Unfortunately, the use of hedging strategies in the Russian market is not widespread, as in foreign markets, where hedging tools are widely used to reduce price risks.

2357-1330 © 2021 Published by European Publisher.

Keywords: Hedging, risks, price changes, market conditions



1. Introduction

Any economic entity inevitably encounters unforeseen and unplanned environmental events, which must be adequately addressed in order to avoid possible losses. Moreover, the state of modern markets is influenced by an increasing number of factors, which leads to an increase in the frequency of unexpected changes in market conditions and the complexity of the problem of risk assessment and management. In the context of the increasing complexity of the global financial system, a special role in risk management is given to hedging market risks, as an effective mechanism for distributing risk between agents of the economy. The absence of an adequate system of legal regulation of hedging transactions for market risks, the underdevelopment of the segment of urgent financial instruments in the Russian market and a number of other problems of regulating hedging transactions indicate the relevance of the research topic.

Hedging is a mechanism for concluding fixed-term contracts and transactions that takes into account possible future changes in prices for any inventory items and aims to avoid the adverse effects of these changes. Essentially, hedging is a risk management method that assumes partial or complete transfer of the risk of an adverse change in the market price of the asset under management by opening the counterparty to an entity's position in the derivatives market. Acting as hedgers are persons associated with real trading - producers and consumers of goods whose market price is subject to strong price fluctuations.

2. Problem statement

The active growth of international capital markets and national stock markets, the replacement of the old system of stable exchange rates with floating exchange rates led to the awareness of companies of the exposure of their production activities to financial risks. There was a need to develop market risk management strategies, which led to the emergence and development of those segments of the financial market that offered protection against risks. A striking example was the futures and options trading in financial assets - currency, mortgage, securities, bank deposits, etc.

Industrial and trading companies, in order to protect themselves from price, exchange, interest, and currency risks, carry out additional financial transactions for future periods with a guarantee of reducing the influence of adverse fluctuations, using methods to predict market trends, the level of market fluctuations and determine the corresponding cost parameters of the underlying asset. This study is aimed at studying these issues.

3. Research methods

Risk hedging is a complex process that requires the development of a clear strategy, calculations of effectiveness, preparation and consistent application. Only in this case does hedging pay off. Hedging in its content is close to forecasting. Participants in hedge transactions use methods of forecasting market trends along ascending and descending lines, evaluate their limits and expiration dates, calculate the expected levels of market fluctuations and the corresponding cost parameters of the underlying assets.

An important problem for hedging risks in Russia remains the ambiguity of interpretations in Russian legislation and the complexity of harmonizing the accounting statements of physical transactions

and transactions in derivatives markets, which does not contribute to the development of derivatives markets and hedging. The paper analyzes data on the use of hedging tools and determines the directions of their implementation in the business process.

4. Results and discussion

If all participants in hedging operations are arranged according to the degree of activity in the use of futures markets, then the picture is as follows:

- the most active hedgers are trading and intermediary firms that apply all possible types of hedging;
- actively use hedging companies involved in the primary processing or refinement of goods;
- companies that produce finished products use the futures markets to hedge prices for the raw materials they purchase.

Commodity markets were historically the first areas that led to the emergence of hedging as an economic phenomenon. The development of hedging is associated with the need to insure transactions with real goods - raw materials, food, etc. from adverse changes in the prices of goods, for which contracts were drawn up, which stipulated certain conditions. For a long time, the futures trading mechanism was used exclusively within the framework of commodity markets.

Currently, exchange and over-the-counter hedging instruments are widely used, the global turnover of which, according to the World Bank for 2018, is presented in Table 1.

Table 1. The volume of world financial assets (World Federation of Exchange)

Financial assets	Market volume(trillion US dollars)
Equity Instruments	59.0
Debt instruments	27.7
	Derivatives market
	OTC Market
Total	582.6
Forwards	84.2
Options	64.3
Swaps	363.8
Other tools	70.3
	Stock market
Total	67.9
Futures	22.3
Options	45.6
Total derivatives	650.5

The statistics shown in Table 1 indicates a significant share of global trade in derivative financial instruments in the OTC market.

Despite the existing contradictions in Russian legislation, the number of companies using hedging market risks using derivative financial instruments is increasing, which allows market participants to manage risks. Hedging offers a market participant a choice of financial instruments for various types of risk (Ajupov et al., 2016).

However, it should be noted that the use of hedging strategies in the Russian market is not widespread, as in foreign markets. Rather, hedging practices in Russia can be described as follows: hedging

is more likely than not. On the one hand, there is no sufficiently developed market for the necessary financial instruments, on the other hand, the available instruments are not in high demand (Bulatjva et al., 2019). Derivative financial instruments represented on the Russian derivatives market do not fully meet the current billion needs of companies' hedging bonds for the first risks.

For foreign companies, hedging is one of the widespread and effective ways to manage market risks. According to Bank for International Settlements research in the USA, in 2018 almost every third company considered hedging in the derivatives market as a mandatory attribute of a company's activity in a market economy (Bank for International Settlements, 2020).

A study conducted by the investment company Peter Trust JSC revealed that a significant part of domestic companies not only does not want to engage in risk management (hedging), but in most cases are not sufficiently informed. Russian companies avoid the use of derivative financial instruments in view of the extremely incompetent attitude to the topic of risk hedging, which is associated with the corporate governance system and the psychology of company employees (Bayguzina et al., 2019). The problem of the perception of derivatives by specialists of most companies rests on the complex nature of the emergence and existence of these assets.

As a rule, large companies at the federal level are staffed with competent specialists to develop hedging strategies. However, in the segment of medium and small businesses, large regional companies, there are problems in attracting professionals to conduct transactions in the derivatives market, which complicates the legal support of hedging operations.

Hedging strategies represent a set of specific hedging instruments and how to use them to reduce price risks. All hedging strategies are based on the parallel movement of the current price in the real market ("spot") and the futures price, the result of which is the ability to compensate for losses in the derivatives market incurred in the real market (Kazakova & Kuzminykh, 2017).

For the widespread occurrence of risk hedging operations, the domestic derivatives market is underdeveloped in contrast to Western markets. Nevertheless, there is a positive tendency to expand the trading volume of financial instruments on Russian sites. Statistics reflecting the growth in turnover and the volume of the derivatives market in Russia are presented in table 2 as the average daily volume.

Table 2. Aggregated data on average daily volumes of derivative financial instruments by types of underlying assets (billion US dollars) (The official website of the Moscow Exchange, 2020)

Types of tools	2017	2018
All tools	4.76	9.30
Currency forwards	3.61	4.50
Interest derivatives	0.33	0.12
Derivatives per share	0.41	1.06
Commodity derivatives	0.30	3.61
Derivatives on bonds	0.003	0.004
Credit derivatives	0.016	0.005

The volume of interest-bearing derivatives is stagnating due to the insufficient spread of the practice of using floating interest rates on the Russian market, which are the basis for interest-rate swaps, a widely used derivative financial instrument in international markets. There is a significant increase in the volume of commodity derivatives, including derivative financial instruments for precious metals, which is due to

the sectoral structure of the Russian economy, which is characterized by the production of goods with a low degree of processing. This was reflected in the growth of trading in commodity exchange futures. The widespread use of foreign exchange forwards to hedge currency risks with the real sector of the economy (corporations) has led to a positive trend in the turnover of trade in this instrument at Russian sites. The increase in derivative financial instruments for shares is associated with the revival of the national stock market and the growth of Russian stock indices (Kiselev, 2015).

Low competition in this segment of the domestic financial market gives banks certain advantages in the form of the opportunity to impose their terms of partnership on the participants in the transaction. In connection with the introduced economic sanctions against Russian financial institutions, the share of cross-border transactions decreased. The flip side of this process was that in 2018 the share of international subsidiaries in the volume of derivatives transactions and derivatives in the Russian market drastically decreased by more than 90% (table 3).

Table 3. The share of domestic and foreign banks in the total turnover of derivatives and derivatives operations,% (The official website of the Central Bank of Russia, 2020)

Banks	2017	2018
Domestic banks	60.2	97.3
Subsidiaries of international banks	39.8	2.7

Experts note the fact that, along with the development of an open exchange market, a shadow market for over-the-counter currency derivatives is developing in Russia (Kurmanova, 2019).

In international practice, hedging with option contracts is widely used, which limit the risks in the amount of the option premium. Option strategies allow you to create different combinations of options in one portfolio in accordance with the hedger strategy regarding the expected risk.

According to the Bank for International Settlements, (2020) the global average daily trading volume of option contracts as of March 2019 is 2.3 trillion. US dollars worldwide (table 4). Most of the trading volume falls on the United States.

Table 4. World trading volume of option contracts, Billion US dollars (World Federation of Exchanges, 2020)

Regions	Open interest					Average daily trade			
	December 2017	December 2018	March 2019	2017	2018	December 2019	January 2019	February 2019	March 2019
Total world volume	47315	55724	68283	1696	1829	1724	1758	2052	2302
North America	36156	42090	53320	1413	1491	1457	1707	1588	1932
Europe	10262	13116	14372	260	316	286	321	298	345
Asian region	22	10	12	6	8	8	7	7	8
Other markets	875	508	579	17	14	7	16	23	18

Europe accounts for only 345 billion US dollars of daily options trading volume. According to the Moscow Exchange, the share of Russian volumes is 0.1% of the total trading volume of the European session (table 5).

Table 5. Daily trading volume of options on the Moscow Exchange (The official website of the Moscow Exchange, 2020)

Asset	Number of transactions	Trading volume March 2019 (USD)
Options	5288	362 527 150

The advantages of futures contracts as derivatives market instruments are the ability to fix the “today” price of an asset, the currency exchange rate or the interest rate at which the contract will be executed after a certain period. The futures market is a stock market, respectively, more liquid, free of credit risk.

The Bank for International Settlements (2020) data indicates that the global average daily trading volume in futures contracts as of March 2019 amounted to 8 trillion. US dollars, which significantly exceeds the volume of trading in option contracts. The European session accounted for 2.1 trillion. US dollars of the daily trading volume of futures contracts (World Federation of Exchanges, 2020). On the Moscow Exchange, the monthly trading volume on futures contracts as of May 2019 did not exceed 6 trillion. rubles (The official website of the Moscow Exchange, 2020).

5. Conclusions

Thus, despite the costs associated with hedging and the many difficulties that companies may encounter when developing and implementing a hedging strategy, its role in ensuring the stable development and security of functioning of market entities is quite large:

- a significant reduction in price risk associated with the procurement of raw materials and the supply of finished products;
- hedging frees up company resources and helps focus management personnel on key aspects of the business;
- facilitates the attraction of credit resources, as banks take into account hedged pledges at a higher rate;
- hedging is aimed at financial compensation of losses, their elimination and transformation due to the implementation of additional transactions with underlying assets and derivatives to the main transaction, the value of which changes in the opposite direction.

By their nature, derivatives are a tool for hedging risks, moreover, not only the risks of investors, but also the risks of direct producers of economic goods. For the domestic economy, focused mainly on raw materials markets, this is protection against price fluctuations. For investors, the use of derivatives provides an opportunity to build risk-free strategies or strategies with limited risk. Credit organizations have the opportunity to expand the range of services for customers based on the development of structural products (Kurbanaeva et al., 2019). Without the futures organized by the Moscow derivatives market, the

latter is impossible to talk about forming an internal market bank pricing most assets of the most important commodities for the economy, for example, such as energy, metals, hedging grain and building materials.

In order to increase the efficiency of regulation of circulation in the derivatives market of derivative financial instruments, it is necessary to provide financial instruments that are not related to securities, accounting of rights and circulation in accordance with the rules of accounting and circulation of securities. At the legislative level, it is advisable to recognize that the prices of futures contracts are market prices so that consumers and producers can use the derivatives market mechanism. These amendments are primarily necessary for calculating taxes, taking into account the real pricing policy. Regulation of the trading environment for transactions with financial instruments should be unified on the basis of standards and requirements in terms of disclosing information about transactions, ensuring the protection of interests of participants, transparency of transactions and prevention of fraudulent transactions with financial instruments.

Due to the expansion and complication of financial market instruments, there is an objective need to develop self-regulatory functions based on the interaction of self-regulatory organizations with state institutions, expanding the capabilities of self-regulatory organizations in collecting and analyzing financial market participants' reports, generalizing and disclosing information. With the participation of self-regulatory organizations, initiate the development of standards, norms and rules for regulating the trading environment of exchange and over-the-counter transactions with fixed-term contracts in order to supplement and detail the rules of state regulation.

References

- Ajupov, A. A., Kurmanova, L. R., Abulguzin, N. R., & Kurmanova, D. A. (2016). A comprehensive assessment of the financial security of banking system. *International Business Management*, 10(23), 5620-5624.
- Bank for International Settlements. (2020). <http://www.bis.org>
- Bayguzina, L. Z., Galimova, G. A., Nurdavlyatova, E. F., & Ponomareva, L. N. (2019). Globalization of financial system and its synergetic effect at regional level. *European proceedings of social and behavioural sciences*, 58, 209-216. <https://www.futureacademy.org.uk/files/images/upload/SCTCMG2018FA025.pdf>
- Bulatjva, E., Kurmanova, L., Zhuzhoma, J., Khabibullin, R., & Shaidullin, R. (2019, 9 August). Evaluation of financial stability of Russian companies. *E3S Web of Conferences*, 110, 2018 International Science Conference on Business Technologies for Sustainable Urban Development, SPbWOSCE 2018, St. Petersburg; Russian Federation. <https://elibrary.ru/item.asp?id=41618999>
- Kazakova, O. B., & Kuzminykh, N. A. (2017). The multiplier accelerator theory in the study of municipal-level investment. *R-Economy*, 3(2), 82-89. <https://elibrary.ru/item.asp?id=29728718>
- Kiselev, M. V. (2015). Problems of development of the derivatives market in Russia and ways to solve them. *Finance and Credit*, 43, 19-25.
- Kurbanaeva, L. Kh., Kurmanova, L. R., Khabibullin, R. G., & Kurmanova, D. A. (2019). Role of financial and credit institutions in the regional economic development. *European Proceedings of Social and Behavioural Sciences EpSBS, SCTCMG 2018*, 58(114), 990-999. <https://www.futureacademy.org.uk/publication/EpSBS/SCT2018>
- Kurmanova, D. A. (2019). Financial technologies in the retail banking services market. *Vestnik UGNTU, Science, education, economics. Series Economics*, 1(27), 60-67.
- The official website of the Central Bank of Russia. (2020). <http://www.cbr.ru>
- The official website of the Moscow Exchange. (2020). <http://www.micex.ru>
- World Federation of Exchanges. (2020). <http://www.world-exchanges.org>