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PROTECTION MECHANISMS: EFFECTIVE MANAGEMENT OF CURRENCY RISK USING DERIVATIVES

Abstract*: the article discusses origin and types of currency risk, financial instruments for its mitigation for companies making payments in foreign national currency on international markets. The main derivative financial instruments for hedging risks, like forward and futures contracts, options, currency swaps and FRAs are considered. Special attention is paid to the use of such option strategies, like straddle and iron butterfly, allowing to lock potential losses.*

Keywords*: currency risk, derivatives, hedging, option strategies.*

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ЗАЩИТНЫЕ МЕХАНИЗМЫ: ЭФФЕКТИВНОЕ УПРАВЛЕНИЕ ВАЛЮТНЫМ РИСКОМ С ПОМОЩЬЮ ДЕРИВАТИВОВ

Аннотация*: в статье рассматриваются происхождение и виды валютного риска, финансовые инструменты для его снижения для компаний,* *осуществляющих платежи в иностранной национальной валюте на международных рынках. Рассматриваются основные производные финансовые инструменты для хеджирования рисков, такие как форвардные и фьючерсные контракты, опционы, валютные свопы и FRA. Особое внимание уделяется использованию таких опционных стратегий, как «стрэдл» и «железная бабочка», позволяющих зафиксировать потенциальные убытки.*

Ключевые слова: *валютные риски, производные финансовые инструменты, хэджирование, опционные стратегии.*

Today, the economy is undergoing significant changes. Under the pressure of foreign policy and internal economic modifications, companies are experiencing certain inconveniences in interacting with international partners, in particular currency calculations. However, given the increased difficulties in carrying out currency transactions, it is currency risk that can have a particularly negative impact.

Currency is the so-called «international language» in the field of economics and business, in particular. Despite the temporary difficulties that limit currency transactions, this procedure continues to be fundamental for the activities of many domestic companies.

According to the results of a survey conducted by the audit and consulting group B1, «Delovaya Russia» and the Advisory Council on Foreign Investment in Russia, it turned out that 47% of respondents continue to make calculations in dollars. Moreover, among large firms, this share has reached 50%, and among smaller companies – 45%. As for the euro, 42% of the surveyed entrepreneurs use this currency: 27% of small businesses and 63% of large ones [2] Accordingly, all economic units interacting with the currency are in one way or another exposed to currency risk, which can be completely unpredictable. Currency exchange rate changes are influenced by both economic components (the currency's position on the world stage) and geopolitical factors, which cannot be taken into account, especially if we are talking about future calculations, which are most actively used by companies as part of payments.

Currency risk is a type of market risk, a currency, so similar risk management tools are often used. Currency risk is characterized by the possible loss of currency due to changes in exchange rates during various transactions, ranging from settlements with foreign partners to investment activities. At its core, currency risk is a type of market risk, and the principles of managing risk associated with changes in exchange rates are largely similar to the approaches used to control risks caused by changes in the overall level.

It is evident that fluctuations in exchange rates are predominantly attributable to the divergence in the interest rate dynamics across different nations. Typically, when the interest rates of a particular country rise relative to those of another country's financial market, there is an increase in the demand for its currency, consequently leading to an appreciation in its exchange rate. This phenomenon introduces a risk of relative changes in interest rates, which in turn gives rise to currency risk. This risk bears a resemblance to the risk associated with interest rate changes. However, it should be noted that this risk pertains exclusively to the potential disparity between assets and liabilities within a single currency. An unfavourable fluctuation in the exchange rate of one currency can be counterbalanced by an opposing trend in other currencies.

Types of currency risk:

– settlement, also known as balance or transfer. The source is a possible discrepancy between the assets and liabilities of companies consisting of currencies of different countries;

– economic. Influence of the exchange rate on operational cash flow, which can be affected by reduction in turnover, an increase in the cost of production. Moreover, macroeconomic indicators also should be taken into account, as its impact highly sensitive for company’s financial results;

– operational. This is the risk of earning less than planned or incurring losses instead of income from trade transactions, investments using foreign currency.

In these cases, diversification does not completely eliminate market risk, but can only reduce its impact. The complete elimination of market risk can be achieved through hedging operations. Hedging operations involve the use of derivative financial instruments or dynamic trading strategies to determine future cash flows.

First of all, companies involved in foreign economic activity are engaged in hedging risks:

– exporters who sell their earnings in foreign currency to cover expenses in rubles;

– importers who receive income in rubles, but sign contracts in foreign currency;

– any companies that use credit funds in foreign currency.

When the exchange rate exhibits instability, such enterprises find themselves incapable of making effective financial plans. They are unable to ascertain whether sufficient funds will be available to acquire foreign currency to meet their obligations under previously established contracts. The predominant concern is the potential for incurring losses as a result of fluctuations in the exchange rate. Consequently, numerous companies adopt proactive strategies, such as hedging, to mitigate these risks.

For hedging it is usually used following derivatives.

1. Forward contracts (in the Over-The-Counter market). A forward contract implies an agreement between two counterparties, one of whom undertakes to deliver in the future, and the other to pay for the underlying asset at the price agreed upon at the time of the transaction. Unlike futures contracts, the forward is concluded outside the exchange [1].

2. Futures contract – exchange contracts between a seller and a buyer for the purchase/sale of an asset in the future – on a clearly agreed date. In this case, the contract execution price is determined at the time of the transaction.

3. Options (call/put and numerous strategies with them). Under an option agreement, the buyer gets the right to purchase or sell the asset at an agreed time at an agreed price [1].

4. Swaps is an asset exchange agreement with the condition to return them within a certain period of time.

5. Forward Rate Agreements (FRAs) are financial contracts between two parties to exchange cash flows at a future date based on an agreed-upon interest rate [1] While

FRAs are commonly used in interest rate markets, they can also be applied to currency exchange, allowing to hedge against currency fluctuations.

If a company is engaged in the import or export of goods or is credited in foreign currency, it is important for them to insure themselves against currency risks. For this, forwards will work better, since they may have any additional conditions, and options that do not always oblige company to make a deal. In addition, a swap can act as a short-term foreign currency loan. If an importer needs currency to purchase goods from abroad, he can exchange it for rubles under a swap agreement with an exporter who has a lot of currency.

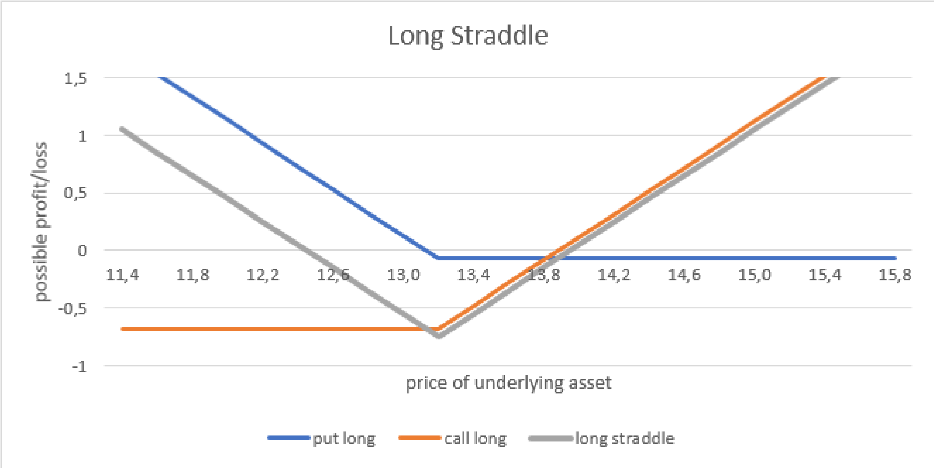
Due to the use of currency transactions in the business process, taking into account the rapidly changing situation in the world, hedging currency risks is a rational solution.

Companies engaged in exports can use various option strategies to hedge currency risks and protect their income from currency fluctuations. One of the most common strategies is to buy put options.

For example, export companies most often use put options for hedging. This gives the company the right, but not the obligation, to sell a certain amount of currency at a pre-determined strike in the future. This allows the company to protect itself from a fall in the exchange rate of the currency in which it expects to receive income from exports.

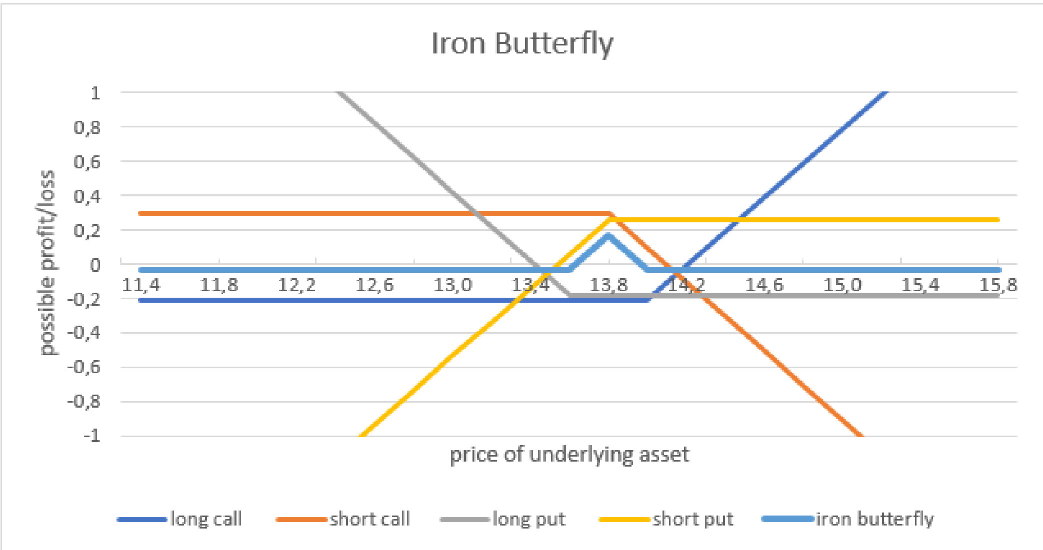
Companies that actively use settlements in foreign currency also resort to more advanced strategies.

A combination of put and call options (straddle): Purchase of both put and call options to protect against significant fluctuations in the exchange rate in both directions. Long straddle allows companies to lock potential loss at the certain level using options with similar strikes and expiration dates. For instance, at picture 1 is shown strategy implemented through put and call options by CNY with strike 13,2 and maximum loss -0,725.



Pic. 1 «Hedging currency risk with long straddle» [3]

The iron butterfly strategy can be useful for importing companies that expect the exchange rate to remain in a certain range and want to minimize the risks of losses. This strategy combines elements of both bullish and bearish positions and allows you to limit potential losses under certain conditions. For realization, it is required 4 options: call long with strike 14, call and put shorts with strike 13,8 and put long with 13,6, it ensures that losses mustn't be under 0,038.



Pic. 2 «Hedging currency risk with iron butterfly» [3]

The use of option strategies allows companies to minimize the risks associated with currency fluctuations and provides greater flexibility compared to direct currency swaps or forward contracts. The right choice of strategy depends on the specific circumstances and goals of the company.

Moreover, hedging has an impact on the value of a company by the following factors:

– Reducing uncertainty: Effective hedging techniques allows to reduce financial uncertainty, which can clarify expected cash flow and increase confidence of future receipts. This, in turn, can improve the company's market valuation;

– Revenue stabilization: Protection from currency fluctuations allows the company to more accurately forecast its income and expenses, which contributes to better financial planning and management;

– Money management: Companies that hedge currency risks can manage their capital more effectively. This can lead to a decrease in the cost of capital and an increase in investment attractiveness;

– Reputation and competitiveness: Companies that actively use hedging may be perceived as more professional and stable than their competitors, which may also have a positive impact on their value. Hedging currency risks is an important tool for companies operating in international markets. It helps to reduce uncertainty and increase the stability of financial indicators, which can ultimately have a positive impact on the company's value. However, it is important to consider both the benefits and risks associated with using hedging.

In conclusion, effective management of currency risk is a critical aspect for the success of companies operating in international markets. In addition, it has a significant impact on the value of companies and their investment attractiveness.

As shown in the article, the use of derivatives can significantly minimize potential losses associated with currency fluctuations.

Option strategies demonstrate their effectiveness in various market conditions, allowing market participants not only to protect themselves from risks, but also to benefit from changes in the value of currencies.

Ultimately, the use of protective mechanisms through derivatives becomes an integral part of strategic financial planning, contributing to confidence and stability in managing currency risks.

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