

Foreign Exchange Risk in International Transactions



Florentina-Olivia Bălu

Candidate Ph.D. Assistant

Daniel Armeanu

Ph.D. Lecturer

Academy of Economic Studies, Bucharest

Abstract. *Every international business is affected by the ever-changing value of the currencies implied in contracts. While many of us consider this unpredictability a nuisance, the volatility of currencies around the world can mean the difference between success and failure for many exporters/importers. Exchange rates between one currency and another can change dramatically in a short period of time, leaving the unprepared business exposed to potentially crippling losses. The efficient management of this risk is essential for the survival of a company and any business that is exposed to such a risk should ensure that it is fully prepared to manage it. Old standbys and recent breakthroughs in the area of financial risk management can remove much of the risk from currency rate movements. The range of such products is huge, with increasingly sophisticated techniques constantly being added. Among the most modern methods for managing exchange risk there are four major classes of derivative products like: forwards, futures, options, and swaps. Beyond the four main types of risk management instruments, there are a number of other products including “swaptions” (options on swaps); avenging options; yield curve swaps; futures on spreads; and options on portfolios. Sophisticated mathematical tools and high-speed computers are needed to calculate the price of these instruments and to determine their overall effect on the company.*

In this article we will focus on forward and futures contracts for managing foreign exchange risk. A forward is a contract to buy or sell currency at an agreed upon exchange rate at a specific date in the future. Futures are similar to forwards except that they're traded on exchanges which specify settlement dates. Also we make some recommendations related to the foreign exchange risk-management practices that are useful for companies involved in international trade and for financial institutions interested in providing hedging products to these companies.

Key words: foreign exchange risk; hedging; international trade; risk management; forward and future contracts.



1. The foreign exchange risk in international transactions

The variety of the international transactions and the individuals engaged in their development determine the risk to be a permanent constancy that cannot be ignored at all. Under the conditions of passing to an economy based on liberal, self-regulation and competition principles, the matter of having knowledge,

calculating, preventing the risk and modeling it acquires a special importance and signification.

Generally, the economic phenomena and processes, and especially those referring to the foreign trade are aleatory processes, are subject to hazard and risks. It is what Nicolo Machiavelli once

ascertained: “hazard governs more than half of our actions and we lead the rest”. Indeed, the major themes of the beginning of the millenium, the risks are strongly anchored in modernity, expressing multiple aspects of the economic activities more striking in the business world and especially of the international economic relationships. Therefore, any activity presumes a risk. The risk is permanent and accompanies like an umbrella the business of a company and it occurs or not depending on the created conditions.

The evolution of the world economy at the beginning of this millenium and especially the present evolution of Romania determines a careful policy of risk measurement, in order to obtain acceptable profits in the future.

The participants to the international economic exchanges are confronted with a variety of risks that can negatively affect their activity. Among these, “two categories of more important risks can appear during the international financial transactions: on one side, the risk of the interest rate characteristic to the financial transactions and it becomes more accentuated at the same time with the increase of the rates volatility during the 80’s. On the other side, the foreign exchange risk, much more specific to the international financial relationships and which increased at the same time with the appearance of the floating rates in 1973” (Bouët, Dyoytm, 1993, p. 47).

The foreign exchange risk is the exposure in a certain currency, multiplied with the variation in time of the foreign exchange. One of the fundamental issue in this field is the imprecision of any measurement of risk, associated with a complex of possibilities and probabilities caused by the difficulties in predicting the evolution of the foreign exchange rates (Nițu, 2000, p. 55).

The foreign exchange risk for the exporters appears in the situation when, on the payment day, the transaction currency – the contract currency – has a buying power lower than in the moment of concluding the contract, therefore the contract currency has suffered a depreciation.

The foreign exchange risk for the importers appears in the situation when, on the payment day, the transaction currency has a buying power higher than in the moment of concluding the contract.

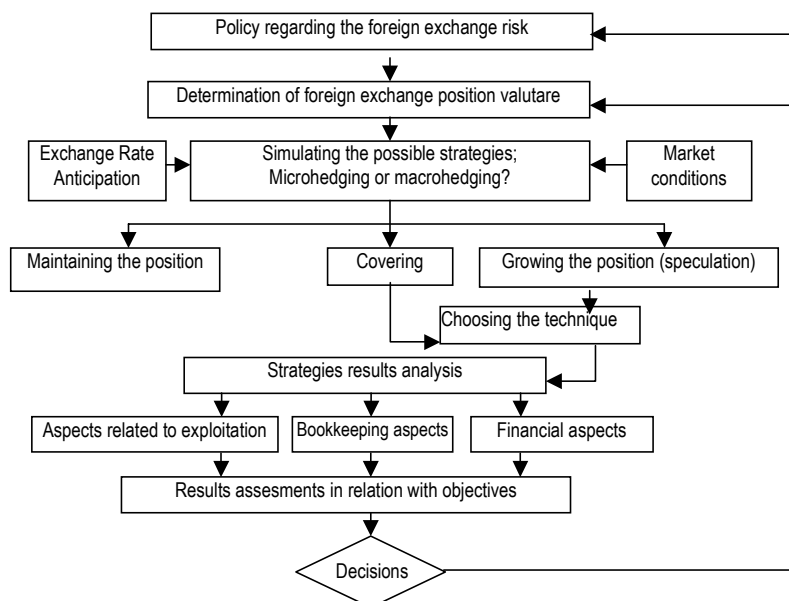
The internationalization of the economic life, the competition among nations for an increasing proportion in the international trade, the dramatic structural changes in the merchandise production and distribution systems and also in the management, on the background of turbulences in the financial markets, represent factors of risk and also managerial challenges.

The foreign exchange risk represents the possibilities of appearance of a loss as a result of the adverse evolution of the foreign exchange rate. On the microeconomic level, the foreign exchange rate has three forms:

- transaction risk related to the commercial or international financing activity of the company;
- balance sheet risk related to the conversion of the positions in the balance sheet into foreign currencies;
- competitiveness risk related to the relationship of the company with foreign competitor companies (Ion, 2001, p. 76).

2. Techniques regarding the foreign exchange management

The foreign exchange management involves a long decisional process which is synthetically presented below:



Covering the foreign exchange risk for each transaction can be made by two techniques: contractual and extra-contractual.

Contractual techniques - the international commercial contracts contain provisions that allow partial or total retrieving of loss caused by other party. These provisions refer mainly to the recalculation of the contract value on the payment day, in relation with the price, exchange rates or interest rates evolution. There can be included:

- the simple foreign exchange clause;
- the simple foreign exchange basket clause;
- the balanced foreign exchange basket clause;
- the DST clause.

Extra-contractual techniques represent modalities of covering the risks used after the conclusion of the import export contracts. Due to the fact that including the clauses in the commercial contracts are hardly accepted by the partners, the parties have two extra contractual modalities:

- a) *internal*;
- b) *external*.

a) *Internal extra contractual techniques* refer to the management of the risk at the company level and take into consideration:

- choosing the contract currency;
- adding an assuring margin to the price
- synchronization of the encashment and payment in the same currency;
- payment date game (anticipations and/or delays in payments or encashment) when the payment of the imports can be made within a time period.

b) *external extra contractual techniques* refer to the transfer of the risk to a commercial bank or to another intermediary which accepts to take it over. These modalities are:

- *forward contracts*;
- *futures contracts*;
- *swap contracts*;
- *options contracts*.

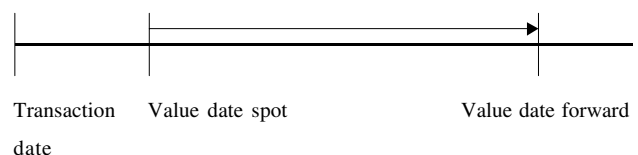
3. Using derivative products in foreign exchange hedging

Can the derivatives be used for the purpose of reducing the risk? While some people are intimidated by the complexity of the derivative products, others are enthusiastic because of the opportunities these products offer. We shall present hereinafter the advantages and possibilities regarding an efficient management of the foreign exchange risk through forward and futures transactions.

3.1. Forward transaction in foreign currency

“Forward transaction represents an obligation, undertaken within an un-organised market, to buy or sell a currency in the future, at a price established at present. In order to cover the foreign exchange risk, the importers can buy the currency forward and the exporters can sell forward the currency to be cashed. The success of the covering depends on the accurate anticipation of the future evolution of the foreign exchange rate, otherwise the gain shall be transformed into a loss and the loss into gain. The characteristic of the forward transactions is that they are firm contracts, being terminated only on the maturity date by exchanging the two currencies and they are standardized”. (Nițu, 2000, p. 235)

Unlike the spot transactions, where the execution of the contract is in two working days from the date of initiating the transaction, the maturity of the forward transactions is in period of three days to five years. (Ion, 2001)



The terms these transactions provide are in general: 1 week, 1,2,3,6 and 12 months. But such contracts can provide also un-standardized terms (e.g. 1 day, 9 days, 41 days etc.). The duration of these contracts starts from spot and in case the maturity day is a non-working day, it shall be taken into consideration the first working day after maturity day.

Usually the forward rate differs from spot rate, the forward rate not being a prognosis of the exchange rate on the maturity day.

The price of the forward contract (exchange rate) is determined according to *the principle of interests' parity*, adjusting the spot rate with the difference between the foreign currencies interest rates. This difference can be positive (premium) or negative (discount).

The quotation of a foreign currency, both spot and forward, includes two rates:

- the rate the bank buys the foreign currency (*BID rate*)
- the rate the bank sells the foreign currency (*ASKED or OFFERRED rate*).

The difference between these rates, the so-called spread, will be used by the bank in order to cover the expenses of the transaction. In case of a forward premium, the point BID forward is less than the

point ASK forward, and in case of a forward discount, the point BID forward is higher than the point forward ASK.

The forward points are calculated as follows:

$$FWD_c = S_c \times \frac{(RD_{mn} - R_{Ivb}) \times \frac{n}{360}}{1 + R_{Ivb} \times \frac{n}{360}}$$

$$FWD_v = S_v \times \frac{(R_{Imn} - RD_{vb}) \times \frac{n}{360}}{1 + RD_{vb} \times \frac{n}{360}}$$

Where:

S_c = spot rate for buying;

S_v = spot rate for selling;

RD_{mn} = time interest rate for deposits in local currency;

R_{Imn} = time interest rate for loans in local currency;

RD_{vb} = time interest rate for deposits in foreign currency;

R_{Ivb} = time interest rate for loans in foreign currency;

n = number of days taking into account when determining the forward rate.

The forward rate is calculated as follows:

$$F_c = S_c + S_c \times \frac{(RD_{mn} - R_{Ivb}) \times \frac{n}{360}}{1 + R_{Ivb} \times \frac{n}{360}}$$

$$F_v = S_v + S_v \times \frac{(R_{Imn} - RD_{vb}) \times \frac{n}{360}}{1 + RD_{vb} \times \frac{n}{360}}$$

It follows that:

- the premiums or the discount are proportional with the period for which the forward is made (a longer period of time means a higher premium or discount);

- the calculation of premium or discount does not depend on the effective level of the interest rates for both currencies, but on the interest rate differences;

- forward rate is mathematically calculated, the formula does not contain estimations.

The customer Export SA delivers goods in EU. He expects a payment of EUR 75.000 in one month. In order to avoid the foreign exchange rate, he decides to sell forward EUR 75.000 in one month.

On the date of transaction:

- spot rate EUR/RON.....3.40-3.45
- interest rate for one month for EUR3.25%-3.50%
- interest rate for one month for ROL.....8.25%-8.50%
- period (number of days).....30 days

Using the calculation formula mentioned above, the following forward (bid) rate will result:

$$F_v = S_v + S_v \times \frac{(R_{Imn} - RD_{vb}) \times \frac{n}{360}}{1 + RD_{vb} \times \frac{n}{360}}$$

$$F_c = 3.40 \text{ RON/EUR} + 0.0134 \text{ RON/EUR} = 3.4134 \text{ RON/EUR}$$

Consequently, the customer Export SA can sell dollars forward for one month at an exchange rate of 3.4134 RON/EUR. The effective transfer shall be made in one month when Export SA will pay to the bank EUR 75.000 and will receive for them RON 256.005.

Presuming that on the maturity the spot rate EUR/ RON = 3.3512/3.3705 RON/EUR, the customer Export SA will gain the difference of 0.0622 RON/ EUR. The total gain will be RON 4.665.

3.2. Foreign currencies futures transactions

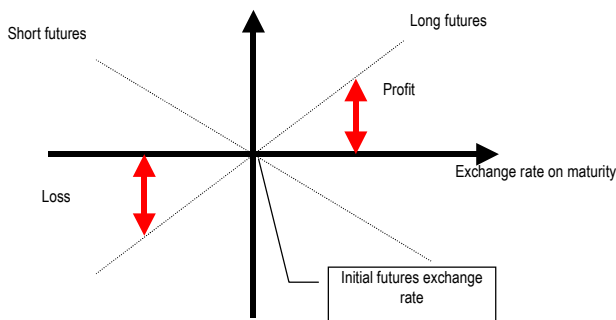
Futures contract is an agreement to buy or to sell an determined amount at a price established in the moment of concluding the contract but the transaction shall be executed on a future date.

Futures and forward contracts contain in general the same provisions. But the differences are notable and related to the transactions mechanism.

Diferrencies between the forward contract and the future contract

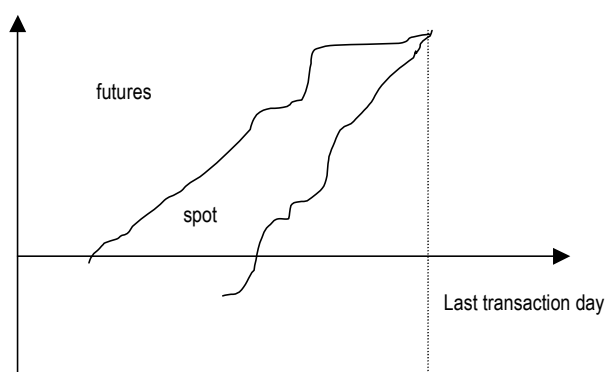
	Forward contract	Future contract
1.Contractual provisions	Negotiated directly by the parties.	Standardized, established by the stock exchange.
2. Transaction place	By phone, dealing or directly between the parties.	Stock exchange.
3. Negotiation	Directly, it is a quite complex process.	By specialized brokers.
4. Collaterals	Collaterals established by the bank.	Margin deposits.
5. Commissions	Are usually included in price and have fixed values.	Fixed commissions for small amounts and negociable for big amounts.
6.Cash flow	The payments is made on maturity day. Rarely, an advance is paid by the buyer.	Daily, the collaterals account registers profit or loss.
7. Liquidity	It is assured by the credit limits imposed by the bank.	It is assured by the margin deposit.
8. Termination	Difficult, only with the partner consent, usually by paying damages.	Extremely difficult, by concluding a contrary transaction.
9. Regulation	Commercial laws.	Specific laws.
10. Delivery frequency	Very high.	Very low.

On the foreign currencies futures contracts market that who has a buyer position (long) earns as long as the futures rate grows, being able to sell better what he initially bought cheaper. That who has a seller position (short) earns as long as the futures price decreases, being able to buy cheaper what he initially sold much.



Just like in the case of the forward contracts, with futures as well, losses and gains are unlimited when the futures price changes with time.

Apparently there is no direct link between the futures market and the currency market. The link between the two markets is determined by the fact that at the maturity date of the futures contracts in currency, they are cleared at the spot exchange rate of the day when the futures contract falls due. In this way, the two prices are developing in parallel and thus an importer who has to pay for the import in three months time and who is afraid that the exchange rate might go up, takes a buyer's position when anticipating its increase.



The more we approach the last transaction day, the more diminishes the distance between futures and spot.

Covering the currency risk by using the futures contracts in currency implies taking a stand on that market according to the position one had in the import-export contract and also according to the moment of payment:

Parties in contract	Moment of payment	Currency risk	Futures position
Exporter	Cashing in advance	exchange rate increase	Buyer
Exporter	Cashing in time	exchange rate decrease	Seller
Importer	Payment in advance	exchange rate decrease	Seller
Importer	Payment in time	exchange rate increase	Buyer

Those exporters who cash exports in advance fear an exchange rate increase (a decrease of the Leu) and take over a buyer's position on the futures market. If the cashing is made in time, the exporters fear an exchange rate decrease and adopt a seller's position on this market, hoping to sell at a higher price, the contracts they will subsequently buy cheaper from the market.

Those importers who have to make advance payments for an import fear a drop in the exchange rate (an increase in the Leu which, in the future, makes the imports to be cheaper in Lei) and take on the position of a seller of futures contracts while importers with payment in time, fear an increase of the exchange rate (a decrease of the Leu which entails that imports should become more expensive in the future) and take a position of futures contract buyers.

Conclusions

The development of derived financial instrument markets is the main characteristic of modern financial environment. Used for the first time in the USA at the mid 70's, *the new instruments*, through the offered advantages, allow for a limitation of financial risks which the companies with import-export activities encounter. The growing preference of foreign trade companies and for their banks is motivated by the following factors: efficiency of using derived financial instruments in managing financial-currency risks, low transaction costs, markets liquidity as well as the development of information and negotiation techniques.

In Romania, the currency risk is a problem for any company in this period characterized by a high fluctuation of the exchange rate. Many Romanian companies had very important drawbacks when, at the end of 2004, the exchange rate was left to vary freely, without being established by the central bank.

Under the circumstances of a highly volatile Leu, currency hedging was a necessary measure which had to be taken by companies, particularly by exporters (the tendency of increasing the national currency affecting primarily the latter, by reducing their profits). In Romania the transactions

with futures and options contract take place at the Monetary – Financial Stock Exchange and the Commodity Stock Exchange of Sibiu. The Sibiu Stock Exchange trades contracts of Leu/Euro, Leu/Dollars or Euro/Dollars with term or half-year maturity dates (March, June, September and December). Contracts can be concluded at any date included in the maturity period. In order to benefit from these hedging instruments, companies should resort to a Financial Investments Services Company (SSIF) authorized to market on the Sibiu Stock Exchange. After concluding the contract between the two parties, the most adequate hedging strategy can be defined to benefit the needs of the customer company. The costs adjacent to covering the currency risks are lower than in the case of forward contracts, the blocked sums being smaller.

Using the futures market, a businessman can establish ahead of time the exchange rate at which he will buy a certain currency, to pay for the

imports or the exchange rate at which he will sell a certain currency, resulting from the export activity he is undertaking. The hedging operation offers the possibility of “blocking the exchange rate” in exchange of immobilizing an amount of 10% of the sum which has to be immobilized on the currency market. In case in which the exchange rate drops massively, as it happens at present, exporters will be protected against risks, because they will get an equivalent profit on the futures market, which will compensate the losses on the currency market.

Essentially, hedging is an efficient manner of protection, either by concluding some forward contracts with a bank or by opening some positions on the futures market (at BMFMS). The decision of hedging depends on the risk degree which a corporation is willing to take, on its financial potential, on company policy, on its own vision about the developments of the market conditions.

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