

PRICE RISK MANAGEMENT IN INTERNATIONAL COMMERCIAL TRANSACTIONS WITH INDUSTRIAL GOODS

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Abstract: Price risks are typical of situations in which the evolution of some prices can influence significantly the development of certain economic operations. In this category we can include: proper price risk, interest rate risk, securities risk, etc. Price risk can also be analyzed by taking into account the fact that the moment when the external contract is closed and the moment when the payment takes place, do not overlap. There is a series of contract clauses which can protect partners from price risk especially in international transactions with industrial goods, because these kind of goods need a long – term partnership.

1. CONCEPTUAL APPROACHES REGARDING PRICE RISK

Price risks are typical of situations in which the evolution of some prices (or of some economic variables: market rates, interest rates etc.) can influence significantly the development of certain economic operations. In this category we can include: proper price risk, interest rate risk, securities risk etc.

a. Proper price risk can be defined as *the possibility that the results of some economic operations could be affected by the variation of some goods or services*. In a deeper analysis of the impact that the evolution of prices can have on the activity of an economic unit, two aspects have to be taken into account:

- ◆ *the variation of raw materials and other materials and services used in the technological processes* – an increase of these prices leads to more expenses and implicitly to a lower profit and their reduction would determine lower costs and the increase of the enterprise's profitability;

- ◆ *the variation of rival products' prices* – reduction of the competition's prices can face the enterprise with the alternative of also reducing its prices or the reduction of sales, both options having a negative impact on profitability and the increase of rival products' prices may create the favorable conditions for raising the enterprise's profitability.

Price risk (the one manifested in international trade) can also be analyzed by taking into account the fact that the moment when the external contract is closed and the moment when the payment takes place, do not overlap. This risk has two forms of manifestation depending on the partner who affects it [4]:

- *the exporter's risk* when the price established through the external contract is lower than the international price at the moment of payment;
- *the importer's risk* when the contract's price is higher than the international price at the moment of payment.

The correct substantiation of export price and the acceptance of a more advantageous import price, within the framework of a given context, reduce this risk but do not eliminate it because of the action of some factors which are related to the modification of the economic regional or international circumstances as well as to the economic policy of partner countries (commercial and monetary factors).

b. Foreign currency risk can be defined as *the possibility that the results of an economic operation could be affected by the variation of exchange rates* [2]. Another definition could be *the possibility of registering a loss in the context of a commercial or financial*

transaction as the result of the exchange rate's modification in the interval between the moment of contract closing and the date of foreign currency payment [5].

The activities in which are involved monetary fluxes expressed in foreign currencies, are exposed to this risk: imports and exports, placements in foreign securities, direct foreign investments, speculative operations. Enterprises which do not have such activities but which are influenced by the micro and macro environment, can also be directly affected by the variation of exchange rates.

In the literature, we find three forms of exposure to foreign currency risks:

- *exposure of consolidation* – it reflects the possible impact of the exchange rates' variation on the accounting value of some patrimonial elements of the enterprise (the value of the investments that an enterprise makes abroad will be expressed in the national currency in the balance sheet, registering modifications of the accounting value and of the official exchange rate at the same time);
- *exposure of transaction* – generated by the possibility of affecting the results of the exchange in the national currency of some international fluxes through fluctuations of the exchange rates (this exposure is typical of short-term international commercial transactions: imports, exports etc.);
- *economic exposure* – determined by the effects that the modification of exchange rates might have on the value of an enterprise (this type of exposure is present especially in the case of firms whose profitability is very sensitive in relation to some import or export prices which can be influenced by the variation of exchange rates).

Foreign currency risk, as in the case of price risk, takes two forms, one for each partner: for the *exporter* – which refers to the possibility of purchasing power reduction of the foreign currency in which the contract price is expressed and for the *importer* – which refers to the possibility of increasing the purchasing power of the foreign currency mentioned in the contract in the interval between the signing of the contract and the payment.

This form of foreign currency risk is also called *exchange rate risk*. Another variant of foreign currency risk, the so-called *transfer risk*, is more frequent in the diverse forms of economic and international cooperation. This risk is generated by the economic and financial conditions from the importer's (debtor's) country, which restrict or put an end to the transfer of foreign currency to the exporter. Therefore, transfer risk is a risk faced by the exporter.

c. Interest rate risk refers to the fact that the results of some economic or placement operations can be affected by the instability of the interest rate. If in the credit contract a variable interest rate is established, this variation will directly influence the interest value that the debtor has to pay. An upward evolution of the interest rate is not in the debtor's favor while a downward one is in his advantage. The situation can become more complex if we think of the way in which the creditor will be affected by the variation of the interest rate.

For some placement categories which can be made by an enterprise, the profit can be assimilated by the interest paid by the debtor. This is often calculated depending on the variable rate whose modifications will directly affect the results of the placement operation. An increase of the interest rate will favor the investor while its downward evolution will disadvantage him.

d. Securities risk can be defined as the possibility for the results of some placement operations in different stocks and shares to be affected by price fluctuations. This type of risk is encountered especially in speculative operations in which the objective is the gain from the decrease or increase of stocks and shares. Obviously, such an operation could also bring considerable losses when the starting points are proved to be wrong. Identifying

the risks of securities in the speculations which take place on the capital market is relatively easy to do given the fact that such risks represent the basis for these operations.

e. Commodity exchange risk refers to the possibility that the results of some economic operations could be influenced by the price variation with which various raw materials or products are transacted in the commodity exchange [3]. The fluctuations of the commodity exchange can affect different categories of economic operations because: (i) many economic agents prefer to get their supply through the commodity exchange; (ii) in some selling and purchasing contracts it can be mentioned that prices will be established depending on the commodity exchange; (iii) within the framework of these markets, speculative operations in which the objective is to obtain a gain from the increase and decrease of prices, are frequently encountered [1]. Identifying these risks is relatively easy to accomplish by analyzing certain aspects of the exposed operations.

2. CHARACTERISTICS OF PRICE RISK

In the analysis of price risks, three of their characteristics have to be taken into account: the speculative nature of prices, the possibility of rapid implementation of coverage methods and the high volatility of some prices. The speculative nature of prices – the instability of a price can provoke, depending on the direction of the variation, both losses and gains for an economic operation. In these conditions, often in practice, when hoping for a favorable evolution of prices, economic agents prefer to take the risk of not taking any coverage measure. The possibility of rapid implementation of coverage methods – some of these, especially those based on the utilization of futures and options, can be implemented in a short interval, sometimes even in one or two minutes. So, rapid reaction can take place in a situation in which the evolution of prices has unexpected modifications. Some prices, especially those formed on markets in which speculative operations are numerous, are characterized by a high volatility with significant short-term fluctuations. These fluctuations are difficult to predict and can have major negative or positive effects for the operations exposed to price risks.

The possibility of gaining something from the price variation determines a propensity for risk taking. But in this particular situation, the high volatility of prices imposes a dynamic analysis of the risk, based on the continual observation of price evolution.

3. APPROACHES ON PROPER PRICE RISK

In order to treat proper risk exposures, different methods can be applied: techniques of avoiding the risk, techniques of controlling the risk, techniques of risk transfer and techniques of risk taking.

a. Techniques of avoiding a proper price risk – in this category we distinguish two methods: giving up the operations which involve a high level of vulnerability towards the instability of prices and introducing in contracts some clauses in order to maintain fixed prices.

Avoiding an operation which is vulnerable because of the price variation is, in general, an expensive process recommended only in special situations, in which important losses are predicted as a result of price evolution. The consent of the other business partners is often hard to obtain regarding the maintenance of stable transaction prices during a certain period of time. In such conditions, the techniques of avoiding proper price risk are not used in practice.

However, there is a series of contract clauses which can protect contract partners from price risk [6] :

➤ **the sliding scale price clause** – it is mentioned in the external contract when the parties involved want to maintain a certain equilibrium between the price of the finished product and the price of the products used in the fabrication of the respective product. This clause has a special role in long-term contracts and in contracts which involve successive deliveries. Practically, the following formula is used:

$$P_t = P_0 \times (a + bM_t/M_0 + c L_t/L_0) \quad (1)$$

In which:

- P_t – the final invoiced price;
- P_0 – the initial price of the merchandise, mentioned in the contract and valid at the date of payment;
- M_t – arithmetical mean of prices, for raw materials, combustible material and other materials taken into account during the period of reference (which can be defined through a fraction of the delivery term or in its entirety);
- M_0 – the price for the same elements at the date fixed above for P_0 ;
- L_t – the arithmetical or weighted mean of salaries during the period of reference;
- L_0 – salaries at the date fixed for P_0 ;
- a, b, c – the previous percentage lump of particular elements in the initial price; the sum of these elements is 100 ($a + b + c = 100$); a = fixed part, b = materials, c = salaries.

The parts establish the extent of P_0, a, b, c , as well as the variation threshold of raw materials and manual labor prices for which the formula functions. The formula can also be used in an extended variant taking into account, besides the two factors (raw materials and manual labor), other elements which contribute to the formation of export price.

➤ **the indexation clause** – it is used with a view to put an end to the effect of price variation and refers to combining the sums established in the contract by a certain standard: merchandise of reference, “strong products” or certain indicators. If the value of the standard is modified and surpasses a certain limit, the contract price is automatically changed with the percentage established by the parties. This clause is useful when the merchandise, which represents the object of the contract, is directly influenced by the movement of the international prices of certain standard products. In the case of export on an inflationary market, the association between the contract price and the deflation of prices on that market is indicated (expression of the inflation process level). In contracts in which, between partners, a reciprocal flux of merchandise appears in order to maintain the contract balance, an exchange relation can be established between the export and the import products, a relation maintained regardless of the price variation.

➤ **the price consolidation clause or the merchandise clause** – it refers to mentioning the prices on the basis of which reciprocal exchanges will take place, in order to determine the exact quantities of merchandise which will be delivered by partners on the entire period of time established through the contract. This clause is used in contracts which establish deliveries on credit and reimburse the credit through products. In this case, the export of complex installations should be correlated with the import in well-determined quantities of raw materials or other products which are necessary for the economy of a country. By means of this clause, the exporter’s interest is to consolidate the exporter’s purchasing power and to pay attention to the risk of an increase of standard products (chosen by the importer) prices.

In the case of products which require a large amount of time for their fabrication, the price is recalculated at the date of the delivery and so, the corresponding formula is also

established; for the value of raw materials, energy and combustibles, the parties can decide together to use the dates in an authorized publication, which they have chosen precisely for this purpose, establishing in this way the date of reference and the fact that the delivery's delay from the part of the seller will not be taken into account even if in the meantime, the prices and/or the salaries have increased.

➤ **the rectification of prices typical of machine and equipment deliveries** (the level of export prices of the producing country or countries is taken into account) refers to the automatic acceptance of the changes generated on the representative market for the respective equipment. In long-term exports, the influence of some factors on prices should also be taken into account. In such cases, in order to assure the efficiency of the operations, contracts should establish the possibility of updating the prices (the future sums should be equivalent with the present expenses). The equivalent price (P_e) consists of the initial price (P_0) and the updates made for n years using the interest rate (d) and the inflation rate (r), as in the following relation:

$$P_e = P_0 (1 + d/100 + r/100) \times n \quad (2)$$

➤ **the price revision clause** represents a method of adapting the contract to the new circumstances through price negotiations in which the parties convene to recalculate the price if a variation of the raw materials, transport expenses, etc., above a certain limit is registered. The parties have to engage in new price negotiations, in which case the date of the contract fulfillment may be postponed.

➤ **the competitive offer clause** allows a certain party (usually the buyer) to obtain from the other party (usually the seller) more advantageous conditions than the ones initially established in the contract or similar to those offered by another person. If the competition's offer conditions are accepted, the contract carries on with the respective conditions. If not, the contract between the parties is suspended and the clause beneficiary can close another contract with another supplier. The competitive offer clause is typical of provisioning contracts and allows the buyer to benefit from the changes which take place on the market after signing the contract.

➤ **the hardship clause** represents a protection from the risks generated by circumstances and other categories of risks and refers to the fact that the parties can request a partial or a total renegotiation of the contract if an unpredictable exterior event takes place which leads to a major lack of balance between the parties in comparison with the situation taken into account when the contract was signed. The hardship clause is characterized by generality in the sense that the motives which generated the lack of balance cannot be predicted, but it does not refer to inevitable events which make the accomplishment of the contract obligations impossible; instead, it only takes into account those events which slow down the contract stipulations.

b. Techniques of controlling the proper price risk, in economic practice:

- ◆ making provisions in advance when it is thought that the prices of some raw materials or services will increase;
- ◆ making efforts in order to sell rapidly in situations in which the threat of price decrease exists (the prices for the products traded by the enterprise);
- ◆ applying some instruments of marketing policy (improving the quality of products and promoting them, introducing new distribution forms, etc.) in order to diminish the effects of demand decrease for the enterprise's products;
- ◆ contacting new suppliers for raw materials, materials and services, whose prices decreased;

- ♦ making efforts in order to replace the raw materials, materials and services used by the enterprise and which are thought to become more expensive;
- ♦ looking for a new outlet for the enterprise's own products.

The possibility of applying these methods depends on the characteristics of the operations which are exposed to the risks on the outlet and provisioning market [7].

c. The main modality of proper price risk transfer is to sign an assurance contract in order for the enterprise to receive compensations if the profit decreases. Several aspects have to be taken into account:

- ♦ the dimension of monetary fluxes developed in the exposed operations;
- ♦ the way in which transactions take place and their evolution;
- ♦ the volatility of prices whose evolution represent the main focus of the assurance contract, etc.

Relatively high assurance prices render this technique more rare in practice.

d. Taking proper price risks can be justified by certain situations:

- ♦ the prices are not characterized by a high volatility;
- ♦ the maximum potential loss can be compared to the costs of other techniques;
- ♦ the predictions indicate a favorable evolution of prices, etc.

In the situation in which the variation of prices could have substantial effects, taking the risk should take place after or along with a system of operative analysis of the exposure in order to avoid an unfavorable evolution of prices and to take rapidly the necessary measures of diminishing the losses.

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