

Short Note

Analyzing Decisions under Inflation

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Delay in any payment under inflation leads to the situation when the seller (producer) actually receives only part of the value of the product. In this regard, it is necessary to evaluate the possibility of granting benefits in case of pre-term payment. Methods for the analysis can be the following:

The fall of purchasing power of money in a certain period of time is characterized by the coefficient, which is a reverse indicator of price index. If the amount of receivable according to the contract is S and the price dynamics is characterized by Y_p index, the actual amount at the time of payment, taking into account its purchasing power, is S / Y_p . Let's assume that during the analytical period prices increased by 5%, in this case $Y_p = 1.05$. Obviously, in this case, payment of 1000 units of money corresponds and is equal to the payment of 952 units of money ($1000/1.05$).

Therefore, actual loss in return because of inflation is 48 units of money ($1000-952$). Granting the benefit on contract prices within the limits of this amount in case of pre-term payment would allow the enterprise to reduce losses associated with depreciation of money. Another argument for the necessity of granting the buyer some benefits in case of pre-term payment is that in this case the enterprise gets the possibility to reduce accounts receivable and therefore, need for financing.

If the average time for getting accounts receivable is 60 days and the enterprise offers the buyer 2% benefit in case of getting payment no later than 14 days, such benefit for the enterprise equals to taking the loan at the rate of 15.8% [$2 \times 365 / (60-14)$]. In addition, if the enterprise uses borrowed capital, for example, at the rate of 18% per annum, such conditions will be favorable for the enterprise.

Receiving benefits may be also favorable for buyers, for whom pre-term payment may be compared with depositing temporary free cash, for example, in deposit account according to the income rate established on the market.

Let's continue the above situation (reduction of the payment period from 60 to 14 days) and assume that interest rate for short-term deposits amounts to 10% per annum. In this situation, any benefit that is not less than 1.3% ($[(60-14) \times 10 / 365]$) would be favorable for the buyer, as receiving benefit at the rate of 1.3% and higher ensures the growth of its income like depositing temporary free funds at the rate of 10% or higher per annum.

If the buyer is informed how much benefit he will receive in case of pre-term payment, it is quite possible that he decides to pay earlier.

Similarly, we may consider various options for other amount of benefits and other terms

for repayment of accounts receivables, which will also be acceptable for both the seller and the buyer.

The final stage of the analysis of accounts receivable should involve evaluation of compliance between the terms of providing and receiving a loan. If the payment for the product or the service provided is made later, it can be said that an enterprise gets credit from its suppliers and tenants. In turn, the enterprise plays the role of a creditor for its buyers and customers, as well as for the suppliers in case of advance payment for the supply of the goods.

For comparing the terms of issuing and receiving credit, we may apply to the formulas that are typical for the payment period of accounts payable and accounts

receivable. In addition, while comparing accounts payable and accounts receivable one of the quite notable factors is the comparison of the individual components of these debts. The data of the comparison is presented in the table (see Table 1 and Table 2):

As the table data shows, the balance between accounts payable and accounts receivable seem as if maintained, but the correlation between their individual elements proves the existence of certain problems. The amount of money received or expected to be received from the buyers amounts to 800 thousand units of money (400+400) while the amount of the funds the enterprise has already transferred and is still to be transferred to the supplier amounts to 1200 units of money (600+600).

Table 1: Balance of accounts payable and accounts receivable (units of money, thousand)

Accounts Receivable	Sum of money	Accounts Payable	Sum of money
Debt owed by the buyers and customers	400	Debt owed by suppliers and tenants	600
Advances to suppliers	600	Advances from customers	400
Total	1000		1000

In order to emphasize the importance of balancing the structure of accounts

receivable and accounts payable, let us consider the reverse situation (see Table 2)

Table 2: Accounts receivable sum of money accounts payable sum of money

Accounts Receivable	Sum of money	Accounts Payable	Sum of money
Debt owed by the buyers and customers	600	Debt owed by suppliers and tenants	400
Advances to suppliers	400	Advances from customers	600
Total	1000		1000

It is obvious that maintenance of solvency is much easier with such balance of accounts receivable and accounts payable. Therefore, it is necessary to take this factor into consideration when analyzing the above indicators.

All of the above Mentioned allow us to Outline some of the Basic Goals that we Need to take into Consideration in the Analysis Process. Therefore, while Analyzing Accounts Receivable, it is Essential to

- Substantiate maximum permissible amount of accounts receivable both for the company and for individual contractors

(credit limit). In addition, the starting point is the strategy chosen for the enterprise development. For instance, increasing the market share requires more credit limit than maintaining the existing market share and accumulation of free funds. Changes in the objectives and strategy of a company under market economy and other important factors require revision of credit policy;

- Check the status of payment of the buyers with overdue debts. In addition, it should be also taken into consideration that the longer the period of nonpayment of debt, the higher the risk of nonpayment;
- pay special attention to the accounts of the customers, which show the increase in overdue debt or the excess of credit limit; or have the largest volume of debts;
- identify the highest concentration of receivables and related nonpayment risks by one or several large consumers;
- observe the ratio of accounts receivable and accounts payable: considerable excess of accounts receivable over accounts payable will lead to the need of attracting additional funds (usually expensive); the excess of accounts payable over accounts receivable may lead to the insolvency of the enterprise;
- Assess the possibility and advisability of granting benefits in case of preterm payment,. In addition, there should be striving for raising an interest for timely (or preterm) payment both by the buyers and the employees, who are responsible for the occurrence and repayment of accounts receivable.

In the long-term analysis of cash flows, it is necessary to take into consideration the inflation factor, which, on the one hand, affects future cash flows and on the other hand, requires adjustment to the discount rate.

Let us consider the necessity of taking the impact of inflation into consideration based on the example. Assume the investor wants to invest 1000 units of money so that by the end of the year the purchasing power of the funds invested is increased by 10%. Such income rate is called real return rate.

Let us assume that the investor deposited this sum in a bank having an annual interest rate of 10%. In the analyzed period the price increase amounted to 10%. Although the investor receives 1100 units of money at the end of the year, in case of price increase by

10%, purchasing power of his funds will not increase and his investment expectations will not be met. Therefore, investment income rate for the investor should be over 10% - higher than real return rate. The income rate, that ensures protection of capital from inflation and, in addition, ensures real return rate for the investment (r) is called nominal return rate and is indicated by n .

For describing the relationship between real and nominal return rates, the so called Fisher equation is used:

$$(1 + r)(1 + i) = (1 + n),$$

Or

$$n = (1 + r) (1 + i) - 1,$$

$$r = (1 + n): (1 + i) - 1,$$

Where i is the inflation rate in a certain period of time.

According to the Provided Example, Nominal Return rate would be

$$n = (1 + r) (1 + i) - 1 = (1 + 0, 1) (1 + 0, 1) - 1 = 0, 21.$$

Therefore, the nominal rate that provides real return by 10%, in terms of above inflation rate (10%) will be 21%.

In order to Envisage Inflation Rate in the Cash Flows Discounting Methods, there are a Number of Requirements

- In case it is possible that the dynamics of revenues and expenditures, which are involved in the calculation of cash flows from the project does not change, which means that the revenues and expenditures influenced by the inflation rate will increase at the same rate equaling the inflation rate, calculations might be done based on both real and nominal rates.
- The general rule is that nominal rates are used for nominal flows and real rates for real flows;
- In case the dynamics of revenues does not coincide with the dynamics of expenses (or

individual types of revenues and expenses) in future periods, discounting of cash flows is carried out using the following algorithms

- All cash flow (both revenues and expenses) will be calculated on the basis of individual

increase in price level by each individual type of revenues and expenses.

- Corrected cash flows are discounted at a nominal rate.