Lectures No. (05), (06), (07)

***Present value and discount, commercial paper discount, commercial paper replacement (debt***

1- Present value and commercial discount: This case appears in debt borrowing. When a person borrows one amount for a certain period, then at the due date he pays the sum (the original amount + interest), but if he can pay that amount now (before the due date), then he pays Less amount This amount is known as the present value, while the amount that is paid after the due date (wholesale) is called the nominal value, and the difference between them is called: discount. The current value of one amount is the amount that must be paid in the event that the debt is paid off due at a later date. If this person can pay the debt before the due date in this case, then he pays what is called the present value of this debt.

So the discount is: interest extended (due) from the date of payment (the date of payment of the present value) to the date of maturity (the date of payment of the face value), it represents the difference between the face value and the present value.

The economic dealer or trader is always in need of liquidity constantly, so he resorts to collecting the value of the commercial paper before its maturity date, and the law has given him the freedom to do so, and the process is called discounting or endorsement. The possibility of collecting its value in cash before the due date from the bank so that it keeps the amount of the nominal value and presents the current value.

The present value is denoted by "VA", the nominal value by "Vn", and the discount by "E".

So: VA=Vn-E

2- The difference between interest and discount:

- The interest represents the interest of the period from the date of deposit or borrowing to the date of withdrawal or payment, while the discount represents the interest of the period from the payment of the current value to the date of maturity;

- The interest is borne by the debtor due to his use of the debt (the loan) for the period between the date of borrowing and the date of repayment, while the discount, on the contrary, is borne by the creditor in return for the debtor paying the debt before the due date.

3- Determining the discount and its components: The discount as a process is a procedure that allows the holder of the commercial paper to convert it into liquidity, before its maturity date, and as an amount expressing the value deducted by the bank or the entity that accepted the discount on the basis of “a certain interest rate, the period separating the discount date and due date of the paper.

It is calculated by the following law: E=(v×t×n)/36000

Where: “E” the discount, “Vn” the face value or value of the debt, “n” the term

 In addition to the value of the discount, the bank deducts a commission value and a percentage of the paper and the debt as a tax for the transaction, and the sum of what is deducted from the paper is called "L'AGIO" so that the owner of the paper gets it when presenting it, after the bank's approval of the net amount after deducting the agio from its nominal value.

AGIO=E+Commission+Impot

Through the aforementioned, we conclude that the elements that control the value of the discount and the current value of the commercial paper or debt when discounted are in the following elements: the discount rate, the commission, and the number of days associated with the discount.

4- Types of discount: The discount and the present value of the debt can be calculated in two different ways:

A- The commercial discount (commercial method): or the process. In the light of this method, the discount is determined on the basis of the nominal value of the debt. It is called the practical method because the nominal value is often known other than the current value, which requires arithmetic operations to be known. The discount is called under this method. Commercial discount, as it is defined as the amount that is deducted from the commercial paper on the basis of its nominal value at the limited period from the discount date to the maturity date and at a specified rate.

If the duration is in days: ×t×n/360 E\_c=v\_n

If the period is in months: E\_C=v\_n×t×n/12

As for the present value: When applying the commercial discount, it is represented in the difference between the nominal value and the commercial discount, and it is calculated according to the following law:

If the period is in days: (1-t×n/360) v\_a=v\_n

If the period is in months: v\_a=v\_n (1-t×n/12)

Example: A person owes: 1000 DZD due 9 months from now, he wants to get rid of it immediately, so if you know that the discount rate is 4%. Calculate what to pay now?

v\_a=v\_n (1-t×n/12)=1000×(1-0.O4×9/12)=970.87

Example: a bill of exchange whose face value is 3500 DZD due to be paid on October 20, 2011, and on March 29, 2011. The debtor agreed with the creditor to pay its value immediately. If you know that the discount rate is 6%, calculate the value of the commercial discount and the current value of the bill?

Calculating the discount period “n”:

N=(31-29)/ March + 30/ April + 31/ May + 30/ June + 31/ Aug + 30/ Sep + 20/ Oct = 205 days

Trade Discount Account “Ec”:

e\_c=v\_n×t×n/360=3500×0.06×205/360=119.58 DZD

Calculating the present value of the bill of exchange:

v\_a=v\_n-e\_c=3500-119.58=3380.42 DZD

v\_a=v\_n (1-t×n/360)=3500×(1-0.O6×205/360)=3380.42

B- The correct (theoretical) discount: Under this method, the basic law of simple interest is applied, where the value of the discount is determined by the correct current value “va`”, considering it the amount that was invested with simple interest at the rate “t”, as its total at the end of the period “n” to the nominal value "Vn". Accordingly, the discount according to this method is only a simple interest due on an amount equal to the present value, and the discount according to this method is called the real or correct discount. Accordingly, the discount according to this method is calculated on the basis of the present value and not the nominal value, as in the commercial discount method.

If the period is in days: E\_R=v\_a^`×t×n/360

If the period is in months: E\_R=v\_a^`×t×n/12

The correct current value is given by the following relation:

〖(360×v\_n)/(360+t×n)=V〗\_a^`

Referring to the previous relationship, we substitute the present value of its equivalent in terms of the nominal value, we get:

If the duration is in days: E\_R=(v\_n×t×n)/(360+t×n)

If the period is in months: E\_R=(v\_n×t×n)/(12+t×n)

Example: A commercial paper with a face value of 2000 DZD, due for payment 50 days from now, what is it worth?