

Accrued Interest

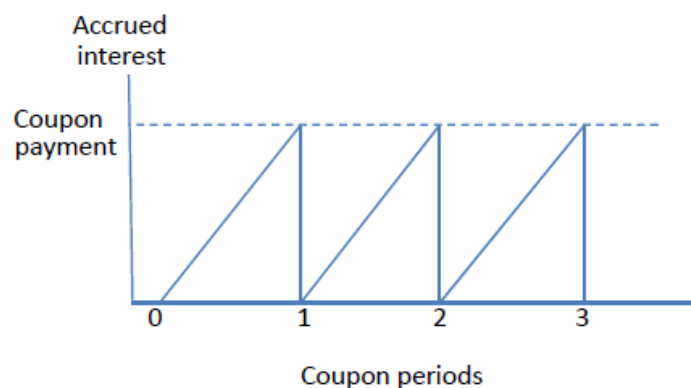
The price that investors pay for a bond is known as the *dirty*, or *cash*, price. Other things equal, investors are prepared to pay more for a bond that is just about to make an interest payment than for a bond that will not make a payment for several months. So, if the yield to maturity does not change, the dirty price must rise steadily as interest accrues and then fall back as soon as each interest payment passes.

The rise and fall in the dirty price as interest accrues does not represent a change in the return offered by the bond. So bond dealers do not quote the dirty price. Instead, they subtract the interest that has accrued since the last coupon payment to give the *clean price*:

$$\text{Clean price} = \text{dirty price} - \text{accrued interest}$$

When you buy a bond, you will agree to the clean price, but the price that you actually pay will include the addition of the accrued interest. If you buy just *before* the interest payment, the accrued will be equal to the entire interest payment; if you buy just *after* the interest payment, there will be no accrued interest to pay.

The following figure illustrates that as each coupon period approaches, the accrued interest on the bond (and therefore the amount that you pay) steadily increases:



In bond markets, accrued interest is usually calculated in one of two different ways.

Actual/Actual In the case of U.S. Treasury bonds and many other government bond markets, accrued interest is calculated by measuring the actual number of days since the last coupon payment as a fraction of the actual number of days from the last to the next payment:

$$\text{Accrued interest} = \text{semi-annual coupon payment} \times \frac{(\text{actual number of days since last payment})}{(\text{actual number of days between payments})}$$

For example, if 91 days have elapsed since the last interest payment and there are 182 days between the last payment and the next, then accrued interest of exactly half the semi-annual payment would be added to the price of the bond.

30/360 In non-government bond markets, such as the U.S. corporate, municipal, and agency bond markets, it is common to use a day-count convention when calculating accrued interest. In this case each month is

assumed to consist of 30 days and a year of 360 days. For example, if a bond last paid interest on the 15th of the month, then on the 15th of the next month, accrued interest would be calculated as $\text{annual coupon} \times (30/360)$. Ten days later on the 25th of the month, accrued interest would amount to the $\text{annual coupon} \times (40/360)$.

Note: When calculating the amount of accrued interest that the buyer needs to pay, the relevant date is not the date on which the purchase is made but the day before the transaction is settled. For U.S. Treasuries settlement day is one business day after purchase (T+1). For corporate bonds it is 3 business days (T+3).

Read more:

<http://www.investopedia.com/ask/answers/06/daycountconvention.asp#ixzz1pq056yVd>