NOMINAL INTEREST RATE VERSUS REAL INTEREST RATE

NOMINAL INTEREST RATE VERSUS REAL INTEREST RATE - The actual return to lending (or cost of borrowing) versus the monetary return to lending (or cost of borrowing). The formula for determining the real rate of interest is:

$r = i - p^*$ where, i = nominal rate of interest r = real rate of interest
p* = rate of inflation or expected rate of inflation

Example: Imagine for a moment that you borrow $5,000 at 10% interest for one year. After one year you pay back the original $5,000 plus $500, which is the interest on the amount borrowed. The nominal rate of interest is 10% or $500. However, the real rate of interest can only be determined by taking into consideration the price of goods over the time period. For simplicity, let's assume the good we are concerned with is a cup of coffee. If the price of a cup of coffee is $5.00 at the time of borrowing, you are effectively borrowing 1000 cups of coffee. The real rate of interest will depend on the change in the price of coffee over the period of borrowing.

Case I - the price of a cup of coffee remains constant at P_c = $5.00. The individual pays back $5,500 or the original 1000 cups of coffee borrowed, plus 100 cups of coffee. The real rate is 100 cups of coffee.

p* = 0%, i = 10%, given $r = i - p^*$, then r = 10% - 0% or r = 10%.

Case II - the price of a cup of coffee rises to P_c = $5.50. The individual pays back $5,500, but since the P_c has risen to $5.50 the individual pays back only 1000 cups of coffee which is the original amount borrowed.

p* = 10%, i = 10%, given $r = i - p^*$, then r = 10% -10% or r = 0%

Case III - the price of a cup of coffee rises to P_c = $5.25. The individual pays back $5,500, but since P_c has risen to $5.25 the individual pays back a little less than 1050 cups of coffee.

p* = 5%, i = 10%, given $r = i - p^*$, then r = 10% - 5% or r = 5%