WHY INTEREST IS PAID

1. USE OF OTHERS' MONEY
2. RISK
3. INFLATION
4. OPPORTUNITY COST
5. LIQUIDITY PREFERENCE

SIMPLE INTEREST

interest paid only on principal amount

INTEREST (SI) RS. = P*N*R
WHERE P = PRINCIPAL
N = NO OF PERIOD
R = RATE OF INTEREST IN % e.g. 0.1

AMOUNT = P+SI

COMPOUND INTEREST

Principal amount is fixed

INTEREST (CI) RS. = $P\{(1+i)^n - 1\}$
WHERE P = PRINCIPAL
N = NO OF PERIOD
i = RATE OF INTEREST IN % e.g. 0.1

AMOUNT = P+CI

Principal amount is NOT fixed

PRINCIPAL AMOUNT IS INCREASING AT EQUAL INTERVALS = KNOWN AS ANNUITY

ANNUITY REGULAR = PRINCIPAL IS PAID AT EACH END OF THE PERIOD

Future Value = Value of Annuity after end of the period

$FV = p\{\frac{(1+i)^n-1}{i}\}$

p=increasing principal

i = rate, n= period

Present Value = Today's Value of Annuity

$FV = p\{\frac{(1+i)^n-1}{i(1+i)^n}\}$

p=increasing principal

i = rate, n= period

ANNUITY DUE= PRINCIPAL IS PAID AT EACH START OF THE PERIOD

Future Value = Value of Annuity after end of the period

$FV = p\left\{\frac{(1+i)^n-1}{i}\right\} * (1+i)$

p=increasing principal

i = rate, n= period

Present Value = Today's Value of Annuity

$FV = p\left\{\frac{(1+i)^n-1}{i(1+i)^n}\right\} +$ Down/First Payment

p=increasing principal

i = rate, n= period