| definitions |  |
| :--- | :--- |
| discountin <br> g | the compound reduction from FV <br> to PV |
| compoundi <br> ng | the earning of interest on interest |\(\left|\begin{array}{ll}compound \& interest earned in subsequent \\

interest \& $$
\begin{array}{l}\text { periods on the interest earned in } \\
\text { previous periods }\end{array}
$$ \\
\hline $$
\begin{array}{l}\text { lump-sum } \\
\text { payment }\end{array}
$$ \& $$
\begin{array}{l}\text { one time payment at a PV or FV }\end{array}
$$ \\
\hline TVM \& $$
\begin{array}{l}\text { key value that a dollar today is }\end{array}
$$ \\
\hline amorth more than a dollar tomorrow \\
on \& $$
\begin{array}{l}\text { listing of periodic interest expense, } \\
\text { reduction in principal each period, }\end{array}
$$ \\

\hline schedule \& ending balance for each period\end{array}\right|\)| loan in which interest and principal |  |
| :--- | :--- |
| perpetuity | infinite regular \& equal pmts |



## By andrewdefinis

| definitions (cont) |  |
| :---: | :---: |
| APR | yearly uncompounded rate of interest |
| EAR <br> (effective <br> annual <br> rate) | compound rate of interest per year |
| compoun <br> ding <br> period | period in which interest is applied |
| fisher effect | relationship which nominal interest rate is a function of the real rate, inflation, and product of inflation and real rate |
| maturity premium | the portion of the nominal interest rate that compensates the investor for additional waiting time to receive payment in full |
| nominal interest rate | interest rate composed of real interest rate plus the inflation rate |
| periodic <br> interest <br> rate | the number of compounding periods per year |
| real <br> interest <br> rate | the reward for waiting |
| reward <br> for <br> waiting | real rate of interest paid for forgoing use of money today. |
| risk free rate | theoretical interest rate with zero risk of any kind |
| yield <br> curve | graph relating return rate and an asset's time to maturity |
| basis point | one hundredth of a percentage point |
| bearer bond | bond where ownership to the possessor |

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| definitions (cont) |  |
| :---: | :---: |
| Bone equivalent yield (BEY) | annual \% rate converted from bank discount rate on a treasury bill |
| callable bond | bond that issuer has the right to buy back prior to maturity at a predetermined price |
| convertible bond | right to swap bond for another asset, usually common stock, at a preset conversion ratio under certain conditions |
| corpus | bond with the coupons clipped off representing only principal |
| coupon | regular interest pmt of bond |
| current yield | annual bond coupon pmt divided by current price |
| debentures | unsecured bonds |
| floating rate bond | bond with changing coupon rate |
| indenture | formal contract of a bond detailing important information |
| junor debt | debt subsequent to the other (senior) debt with lower priority of pmt |
| par value | principal amount to be paid at the maturity date |
| premium <br> bond | bond that current value is above par value |
| prime rate | interest rate banks charge their best customers |
| protective covenant | part of the bond that spells out both required and prohibited actions of the bond issuer |

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| definitions (cont) |  |
| :--- | :--- |
| putable <br> bond | bond holder has the right to sell the <br> bond back to the issuer at a <br> determined price prior to maturity |
| sinking <br> fund | special fund for the retirement of <br> debt on bonds |
| STRIPS | zero-coupon bonds made by <br> separating the interest and principal <br> on us. govt bonds |
| treasury <br> bill | govt bond with a maturity less than <br> one year |
| treasury | govt bond with maturity of more than <br> ten years |
| bond | govt bond with a maturity between 2 <br> and 10 years |
| treasury <br> note | discount rate of return for a callable <br> premium bond |
| yield to <br> call | yield to return the holder receives if held on <br> maturity  <br> till maturity  |
| (YTM) | zero- <br> coupon <br> bond |
| maturity |  |

## formulas

## compounding interest

$\mathrm{FVn}=\mathrm{PVo}(1+\mathrm{r})^{\wedge} \mathrm{n}$ (finding fv)
$\mathrm{PVo}=\mathrm{FVo} /(1+\mathrm{r})^{\wedge} \mathrm{n}$ (finding pv)
$\mathrm{n}=\ln (\mathrm{fv} / \mathrm{pv}) / \ln (1+\mathrm{r})($ finding time $)$
$\mid R=\left(F V_{o} \text { * } P V o\right)^{\wedge}(1 / n)-1$ (finding rate)
FVn=
$\mid$ PMT [((1 +r)n-1) /r]


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Bond Price $(\mathrm{PB})=$
Coupon PMT [(1-1/(1+r)n)/r] + Par / (1 + r)n

Current Yield =
Annual Coupon PMT / PB
YTM =
(Par/PB)(1/n)-1
YTM $\approx$
$($ Coupon $+(\mathrm{Par}-\mathrm{PB}) / \mathrm{n}) /[.4 \mathrm{Par}+.6 \mathrm{~PB}]$
Profit $=$
ending value + distributions-original cost
HPR =
(profit or loss)/original cost
Simple annual return =
HPR/n
$E A R=$
$(1+H P R)(1 / n)-1$
Variance $(X)=$
$[\Sigma(X i-A v e r a g e) 2] /(n-1)=\sigma 2$ (Divisor of ( $n-1$ ) for sample and ( $n$ ) for population)

## Standard Deviation =

$(\sigma 2)(1 / 2)=\sigma$
$\mathrm{Re}=$
$E(r i)=r f+\beta i[E(r m)-r f]$


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