Chapter Preview: Chapter 5

Answer the following questions briefly.

1. What is the difference between an effective annual rate and annual percentage rate?

[Answer]

EAR reflects compounding and it represents an actual interest rate. However, APR does not include compounding, and it represents interest rate on paper, i.e., APR is possible to differ from real interest rate.

r = APR, n = period

EAR = (1 + r/n)^n – 1

APR = r \* n

1. For an interest rate of 12% per year, determine the effective rates per year for (a) quarterly, and (b) monthly compounding.

[Answer]

1. r = 12% per year, n = 4

EAR = (1 + 0.12/4)^4 – 1 = 0.125509 ≈ 12.55%

1. r = 12% per year, n = 12

EAR = (1 + 0.12/12)^12 – 1 = 0.126825 ≈ 12.68%

1. Define the continuous compound interest.

[Answer]

The balance grows continuously over time. Calculate continuous interest in infinitely small units and continue to add to the principal.

1. Briefly explain the following terms:
   1. Amortizing loans

[Answer]

It is a loan product that repays a certain amount every period. The amount of repayment, including interest and principal, is regularly repaid, and the longer the payment period, the lower the interest rate on the repayment. In general, the amount of repayment is the same.

* 1. Real interest rate

[Answer]

Interest rates that are actually earned or paid for investments or loans, except for the effect of inflation. It is an interest rate that takes into account changes in actual purchasing power.

r = nominal interest rate, i = inflation rate

Equation:

* 1. Term structure

[Answer]

A phenomenon in which bonds of the same credit rating have different interest rates depending on maturity. The relationship between maturity and interest rates. In general, the longer the maturity, the higher the interest rate

* 1. Yield curve/inverted yield curve

[Answer]

The Yield curve is a line representing the Yield returns of bonds with the same credit quality at a certain point in time. This curve draws an upward-sloping graph from a short-lived bond on the left to a long-lived bond on the right. This is because investors usually expect higher returns as a reward for risk as the longer the period they lend money.

The yield curve is starting to flatten, suggesting investors are expecting a slowdown in inflation and economic growth prospects. In these scenarios, yields on longer-term bonds will fall, and those on shorter-term bonds will rise. If this trend continues, the yield curve will flip.

* 1. Opportunity cost of capital

[Answer]

Opportunity cost is a benefit that an individual or investor misses when choosing another alternative. Opportunity cost of capital is the opportunity cost of financial capital invested in a business, not used for alternative investments. The best alternative rate of return that you will abandon when you put your capital into a particular project.