

Review for 09/06/16

Equations of Value

- Discount (accumulate) all payment streams to a common point in time.
- Do this for two streams and equate them as appropriate.
- Solve this equation for the unknown quantity.

Unknown Time

Account achieves k times original deposit when

$$t = \frac{\ln(k)}{m \ln\left(1 + \frac{i^{(m)}}{m}\right)}$$

$$\bar{t} = \frac{\sum_{j=1}^n S_j t_j}{\sum_{j=1}^n S_j} \quad \text{is method of equated time}$$

Unknown Rate of Interest

$A(0)$ = beginning bal.

$A(t)$ = final bal.

$$i^{(m)} = m \left[\left(\frac{A(t)}{A(0)} \right)^{\frac{1}{mt}} - 1 \right] \quad \text{nominal rate}$$

$$i = \left(\frac{A(t)}{A(0)} \right)^{\frac{1}{t}} - 1 \quad \text{effective rate}$$