

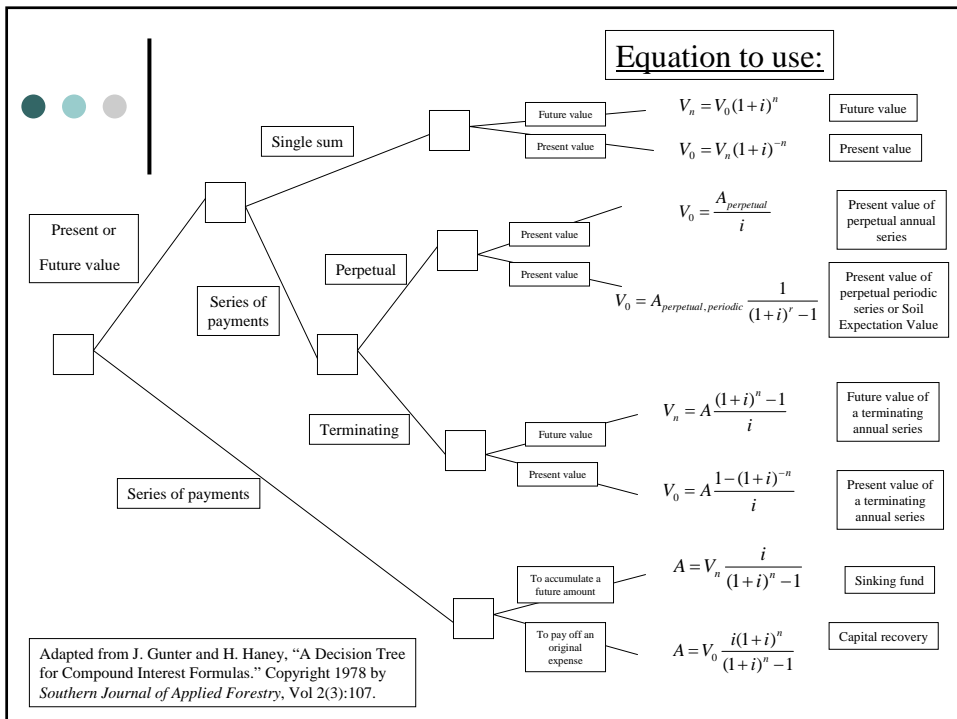


Lecture 10. Choosing the right equation...

FOR 2022. Financial Analysis for Natural Resources.



School of Forest Resources





Example question 1/8

- You have a savings account which earns 2% annual interest, compounded monthly. You deposit \$200 each month in this account. After 10 years, what is the balance?



Example question 2/8

- You anticipate that in 6 years, your 40-acre pine plantation will have 100 tons per acre of sawtimber and 20 tons per acre of pulpwood which you will harvest. You anticipate stumpage prices being \$45/ton for sawtimber and \$7/ton for pulpwood. If your time preference for resources is 8%, what is the present value of this timber?



Example question 3/8

- You are interested in buying some old farmland and converting it to forestland. Based on the site quality, you anticipate that the best net income from timber will be \$4000 every 30 years. The 68 acre parcel is being sold at a price of \$46,000. If your cost of capital is 7%, will you buy the land for timber production?



Example question 4/8

- To maintain the correct pH of your food plots, every third year you must:
 - Lime them to maintain correct pH at a cost of \$90/acre
 - Disk and seed the plot at a cost of \$50 per acre
 - Fertilize the plot at a cost of \$25 per acre
- If your cost of capital is 10%, determine the present value (\$/acre) of maintaining food plots for:
 - 30 years
 - Indefinitely



Example question 5/8

- Your buddy, Lou, has a sure-fire investment. He gives you the details:
 - \$5000 up front cost
 - Returns after 15 years: \$50,000
 - Risk of losing investment is 2% per year
- If you have a pure time preference for resources of 6%, and you anticipate inflation averaging 3.3% per year, would you take Lou up on his offer?



Example question 6/8

- Property taxes on a forest tract are expected to be \$2 per acre per year. What is the present value in perpetuity of this liability if the interest rate is 10%?

- What if the interest rate is 5%?



Example question 7/8

- You have just won the Arkansas State Lottery for \$2,000,000! The Lottery Commission offers you two choices:
 - \$1,200,000 today
 - 20 annual payments of \$100,000 (first payment in one year)
 - Your time preference for resources is 6%.
 - Which do you choose, the lump-sum or annuity?



Example question 8/8

- You borrow \$500 from Eddie “Fingers” Luigi at a “reasonable” interest rate of 2% per week, compounded weekly.
- What annual interest rate is this?
- If you wait 1 year to pay back Eddie, how much do you owe him?



Next lecture...

Exam I

