

Chapter 9 Notes

Time is **valuable!**

How do we measure the value of something?

1. The quantity of benefits
2. The expected timing of benefits
3. Opportunity cost/ Required Rate of Return
 - a. The longer we have to wait to receive benefits, the greater the risk
 - b. Owners and Lenders require to be compensated for two things:
compensation for time **without risk** and **risk**
 - i. $RRR = \text{Risk Free Rate} + \text{Risk premium}$

Risk Free Rate of Return

Return required to USE the money for a period of time; think of it as the rent to use money

- Growing economy= greater demand for money= required rate for **money goes up**
- Not growing economy= less demand of money= required rate for **money goes down**

Treasury Securities: short-term rate charged on US governments loans

Treasury Bills: short term Treasury Securities

Risk Premium

Money to compensate for the risk that buyers and lenders are taking to lend money; risks that cannot be controlled!

Risk and Risk premiums are **constantly changing!**

Future Value:

Can be found by = $\text{Present Value} (1 + \text{Rate of Return})^{\text{time}}$

Multiple Amounts:

Can be found by = $\text{Present Value} (1 + \text{Rate of Return})^{\text{time}} + \text{Present Value} (1 + \text{Rate of Return})^{\text{time}}$

Annuities: stream of equal payments made at equal intervals of time

- **regular annuities:** annuities made or received at the end of the period
- **annuities due:** annuities paid at the beginning of the period
- **perpetuity:** pays a future amount forever (ex: send money to a charity)
 - o $\text{Present Value} = \text{periodic Perpetuity Payment} / \text{Rate of Return}$

The Compounding Period:

When compounding period is one year, people will say they are using **simple interest**

Faster the compounding, the more interest on interest is earned

- takes less time for a present value to grow on a future one

Long Term Business Decisions

1. Buying an **asset**: Decision we make is whether or not we want an asset of \$20,000 cash or a truck worth \$24,500 in present value terms?
2. Borrowing Long term money, a **liability**: divide the interest rate by the number of installments (per year or per month)
3. Funding a **future** need: putting away money in the bank BUT incorporating the interest rate to make money. Example: need to make \$200,000 in 5 years, so put \$35,000 in the bank per year and expect the interest to fill the amount not paid

Business Valuation:

- value of debt plus the value of owner's equity
- value of owner's equity = present value of the benefits owners expect to receive
 - o owners expect to receive NET INCOME
- a business creates value by investing