



AbsoluteFintech

Derivative Pricing Class 1
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Financial Derivative

- Financial – Money involved
- Derivative – “Derived from something else”

A financial deal between two parties that is based on something else.

Valuation / Pricing Derivatives

- **Cashflows / Assets**
- **Risks** that might prevent the cashflows from being realized or from changing
- **Timeline** of cashflows

Cashflows & “Assetflow”

- My company will pay you \$1,000 in 10 years
- You’ll give me 100 shares of TSLA in 3 months
- If it snows next month, I’ll give you my house and you give me your boat

Risks

- What if my company goes bankrupt?
- What if TSLA stocks become worth very little?
- What if it doesn't snow?

Timeline

- How much would you pay to receive \$1,000 today rather than in 10 years?
- What would you pay to get the TSLA payout TODAY rather than in 3 months?
- The weathermen could be wrong? Also in one month will that house-boat trade still be fair?

FV vs PV vs EV

- Future Value: What will this be worth in 10 years?
- Present Value: What will a 10 year asset be worth TODAY?
- Expected Value (*stocks*): What do we EXPECT this deal to be worth today given our assumptions about this 10 year asset?

What is a Rate

- A growth percentage that will properly orchestrate the true value of money today in the future.
- \$900 today = \$1,000 in 10 years
- For example: \$910, \$920, \$930, etc.

Retirement Plans

- I'll save \$2,000,000 so that when I retire at 70 I can live until 85 comfortably
- I'll save \$5,000,000 so that when I retire at 60 I can live off the 5% interest payments until I die
- I'll save \$5,000,000 so I can retire at 60 and live off half the interest earned and leave the rest as inheritance for my family
- I'll save \$4,000,000 so I can retire at 65 and live off interest + principal until I die