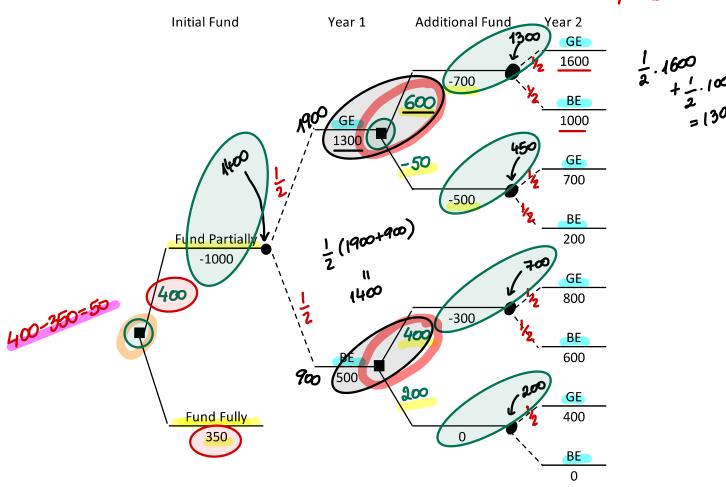
M339 W: September 3rd, 2021. Real Options. A real option is a right to make a business decision er to make an investment. Example. • Tasper Fforde: options on whether members of a different royal family many a member of a · option to make a movie out of a book · renewing a TV show for another season · parking lot downtown Real options are different from derivative securities (like calls and puts that we usually talk about) since they don't have a tradeable underlying asset (so there is no straightforward pricing by replication). Also, they are not usually traded themselves. To valuate real options we will use binary trees w/ two types of nodes: ... decision nodes

possibilities

a decision information nodes screnarios Consider a two-year project that when fully funded at time 0 has a net present value of \$350. The decision tree below shows the cash flows of the project when partially funded at the beginning of the Year 1 (at t = 0) with an option to provide different amounts of funding at the beginning of Year 2 (at t = 1). This tree reflects two economic states (GE = good economy, BE = bad economy) in each of the two years. For a given year, each economic state has a 50% probability.



Assume the discount rate is 0%.

Calculate the value of the option at t = 0.

- (A) 0
- (B) 50
- (C) 150
- (D) 200
- (E) 250

IFM-02-18

Subjective Probabilities.

Our agents form conclusions/models about what the relative likelihoods are of the price of a particular asset at a later date. Formally, they create a model for the distribution of the asset price @ time.T, i.e., the random variable (SCT)

At least, they operate under their subjective beliefs about $\mathbb{E}[S(T)]$. For now, we focus on this simple case.