

NAME: _____

BEM 103 QUIZ 2

Financial literacy

1. What is an Arbitrage opportunity

a trade that profits by exploiting price differences without taking any risk; there are no arbitrage opportunities in perfect markets

An investor is asked to contribute a million dollars to a movie. The movie will be finished in a year and then sold to a distributor. If the film is a success (probability 0.2) it will make 11 million dollars over all other costs, if it is a failure it will make nothing (probability 0.8).

2. What is the expect value of the project?

$EV = 0.2 * 11 + 0.8 * 0 = 2.2$ million. Also acceptable $2.2 \text{ million} / (1+r)$

$-1 \text{ million} + 2.2 \text{ million} / (1+r)$ is the NPV of the project, not its expected value

3. If the investor has an alternative investment that yields 10% a year and is risk neutral what is the minimum equity stake that he will accept to participate in the project.?

*Alternative return $1 * 1.1 = 1.1$ million Aggregate return 2.2million, Minimum equity state $2.2 / 1.1 = 0.5$ Investor has to be given ownership of half the movie.*

4. Suppose six month into the project, the United States in retaliation for France's preference for French content material on TV places a ban on film exports to France. Revenues will then fall by 5%. Should the investor sell his stake?

The only news is a decline in revenue. The investor and everyone else knows this. So the "price" will adjust downwards from P to $0.95P$.

His expected payout was $X(1.1 \text{ million})$ and it is now $0.95X (1.045 \text{ million})$. He did not want to sell X because $U(P) < U(X)$ he is not going to want to sell $U(0.95P) < U(0.95X)$. So he has has no reason to sell.