Question #1 of 15

Question ID: 1208638

Which of the following would be the *most appropriate* approach to probabilistic risk assessment when risky events have discrete outcomes and risks occur concurrently.

A) simulation.

B) decision tree.

C) scenario analysis.

Explanation

Scenario analysis is the most appropriate choice when outcomes are discrete and risks occur concurrently. Simulations are better suited for continuous risks than for discrete outcomes. Decision trees are better suited to sequential risks than for concurrently risks, since risk is considered in phases.

(Study Session 3, Module 9.1, LOS 9.g)

Related Material

SchweserNotes - Book 1

Question #2 of 15

Question ID: 1208627

In designing a simulation, the step involving identification of probabilistic variables should most likely:

A) focus attention on a few variables that have a big impact on value.

B) maximize the number of variables that are allowed to vary in a simulation.

C) define probability distributions for every input in a valuation.

Explanation

In the "Determine probabilistic variables" step, it makes sense to focus attention on a few variables that have a significant impact on value, rather than trying to define probability distributions for dozens of inputs that may have only a marginal impact on value.

(Study Session 3, Module 9.1, LOS 9.a)

Related Material

SchweserNotes - Book 1

Question #3 of 15

Question ID: 1208633

Which of the following is *best describes* an advantage of simulation? Simulations:

A) yield a superior estimate of expected value. ✗

B) encourage better estimation of inputs. ✓

C) produce a simple-to-understand point estimate for expected value. ✗

Explanation

Simulations encourage analysts to examine each input variable closely, rather than simply using "single best" estimates. Simulations produce a *distribution* for the expected value, and not just a point estimate. Simulations do not *necessarily* produce better expected value estimates than other kinds of models do.

(Study Session 3, Module 9.1, LOS 9.d)

Related Material

SchweserNotes - Book 1

Question #4 of 15

Question ID: 1208634

Which of the following *least accurately* describes one of the common constraints introduced into simulations used in risk analysis?

A) Market value constraints ✗

B) Time horizon constraints ✓

C) Earnings and cash flow constraints ✗

Explanation

The three most common constraints that are introduced into simulations used in in risk analysis are: 1) book value constraints, 2) earnings and cash flow constraints, and 3) market value constraints. To use simulations for risk analysis, we introduce a constraint that creates a very large cost for the firm if violated. We can then use the simulation to assess both the likelihood that the constraint will be violated and also to study the efficacy different risk hedging products.

(Study Session 3, Module 9.1, LOS 9.e)

Related Material

SchweserNotes - Book 1

Question #5 of 15

Question ID: 1208639

Which of the following would be *most appropriate* approach to probabilistic risk assessment when facing risks with continuous (rather than discrete) outcomes:

A) simulation.

B) scenario analysis.

C) decision tree.

Explanation

Simulations are better-suited to continuous risks, while scenario analyses and decision trees are generally built around discrete outcomes.

(Study Session 3, Module 9.1, LOS 9.g)

Related Material

SchweserNotes - Book 1

Question #6 of 15

Question ID: 1208636

Which of the following statements about using simulations in risk assessment is *most accurate*?

A) It is generally straightforward to fit real data to an appropriate statistical distribution.

B) Even when the inputs are random, simulations will yield a better looking output.

C) Correlation across input variables can be expected to remain stable.

Explanation

Simulations will yield great-looking output, even when the inputs are random. Real data may not fit distributions: it may be a challenge to find probability distributions that accurately represent an input variable. Correlations may not remain stable and predictable; correlations between input variables will change over time.

(Study Session 3, Module 9.1, LOS 9.f)

Related Material

SchweserNotes - Book 1

Question #7 of 15

Question ID: 1208626

Which of the following *most accurately* describes one of the key steps in running a simulation? Check for:

A) heteroskedasticity within variables.

B) correlation across variables.

C) serial correlation of residuals.

Explanation

It is important that we check for correlations across variables before we run a simulation, in order to identify variables that are likely to be correlated with each other. After identifying correlated variables, we can address the issue by either choosing only one of the inputs to vary, or to explicitly build that correlation into the simulation.

(Study Session 3, Module 9.1, LOS 9.a)

Related Material

SchweserNotes - Book 1

Question #8 of 15

Question ID: 1208629

Using cross-sectional data to define the probability distribution of a variable in a simulation is *most appropriate* when:

A) the peer data is representative of the subject.

B) reliable historical data is available that covers a long period of time.

C) parameter estimates have low variability across companies.

Explanation

The cross-sectional variability of peer data can be used to proxy the distribution of a specific variable if the peers are representative of the subject. Cross-sectional data is compiled from observations of many subjects (in this case, firms) at the *same* point of time (not over time).

(Study Session 3, Module 9.1, LOS 9.b)

Related Material

SchweserNotes - Book 1

Question #9 of 15

Question ID: 1208635

A U.S. firm is *most likely* to introduce into a simulation a constraint related to negative book value of equity, because if the firm experiences negative book value of equity:

A) the firm will probably have to cease operations and liquidate.

B) the firm will be prohibited by law from paying dividends.

C) loan covenants may allow lenders to gain control of the firm.

Explanation

Banks that lend to firms sometimes include loan covenants that allow the bank to gain partial control of the firm if the book value of equity becomes negative. In some Asian countries (though not in the U.S.), a firm with negative book value is prohibited by law from paying dividends. A firm does not have to cease operations if its book value of equity becomes negative; hundreds of firms in the U.S. continue to operate despite negative book value of equity.

(Study Session 3, Module 9.1, LOS 9.e)

Related Material

SchweserNotes - Book 1

Question #10 of 15

Question ID: 1208637

Which of the following is *least likely* to contribute to a meaningful output using simulations?

A) stationary input distributions.

B) static correlations across inputs.

C) ad-hoc parameter estimates.

Explanation

Some of the issues that might prevent a simulation from generating meaningful output include: Ad-hoc specification (rather than specification based on sound analysis) of parameter estimates (i.e. the garbage-in, garbage-out problem), *changing* correlations across inputs, non-stationary distributions, and real data that does not fit (pre-defined) distributions.

(Study Session 3, Module 9.1, LOS 9.f)

Related Material

SchweserNotes - Book 1

Question #11 of 15

Question ID: 1208628

Which of the following methods *least accurately* describes one of ways to define the probability distributions for a variable?

A) Cross sectional data.

B) Statistical distribution and parameters.

C) Exegetical data.

Explanation

Probability distributions for the probabilistic variables can be defined in one of three ways: 1) Historical data, 2) Cross sectional data, and 3) Statistical distribution and parameters.

(Study Session 3, Module 9.1, LOS 9.b)

Related Material

SchweserNotes - Book 1

Question #12 of 15

Question ID: 1208631

Suppose that the different risks that our investment portfolio is exposed to are correlated. The *least* effective method to model these risks would be to use:

A) simulations.

B) scenario analysis.

C) decision trees.

Explanation

Correlated risks are difficult to model using decision trees. Correlation across risks can be modeled explicitly using simulation. In a scenario analysis, we can address correlations by creating different scenarios that reflect how these variables should move together.

(Study Session 3, Module 9.1, LOS 9.c)

Related Material

SchweserNotes - Book 1

Question #13 of 15

Question ID: 1208640

If the different risks that an investment is exposed to are correlated, the *least appropriate* approach to probabilistic risk assessment would be:

A) scenario analyses.

B) simulations.

C) decision trees.

Explanation

Correlated risks are difficult to model using decision trees. When investment risks are correlated, simulations can be employed in order to incorporate modeling of these correlations. Correlations can also be dealt with subjectively in scenario analyses, by generating scenarios that reflect correlations.

(Study Session 3, Module 9.1, LOS 9.g)

Related Material

SchweserNotes - Book 1

Question #14 of 15

Question ID: 1208632

Which of the following *most accurately* describes one of the advantages of using simulations in decision making?

A) Better decisions.

B) Better estimates of expected value.

C) Better estimation of input variables.

Explanation

The Two advantages of using simulation in decision making are 1) Better input estimation and 2) Simulation yields a distribution for expected value rather than a point estimate. Simulations do not 1) yield better estimates of expected value than conventional risk adjusted value models, nor 2) lead to better decisions.

(Study Session 3, Module 9.1, LOS 9.d)

Related Material

SchweserNotes - Book 1

Question #15 of 15

Question ID: 1208630

Which of the following methods *least accurately* describes one of the ways to treat correlation across variables in a simulation:

A) Build the correlation explicitly into the simulation.

B) Calculate and use White-corrected standard errors.

C) Select only the input with the bigger impact on value to vary.

Explanation

It is important that we check for correlations across variables before we run a simulation, in order to identify variables that are likely to be correlated with each other. After identifying correlated variables, we can address the issue by either choosing only one of the inputs to vary, or by explicitly building that correlation into the simulation.

(Study Session 3, Module 9.1, LOS 9.c)

Related Material

SchweserNotes - Book 1