TreeAge Pro 2009 Product Overview

TreeAge Software, Inc.

Overview

- TreeAge Pro 2009 introduces new features and improves existing ones
- Each new/enhanced feature is highlighted in this webinar
- Also refer to web documentation:
  - Release page: http://www.treeage.com/support/Release2009.html
  - Release notes: http://www.treeage.com/files/pdfs/pro2009/technote17.pdf

New Features

- Multivariate Normal Distributions
- New Branch Menu

Enhanced Features

- Tree Function Syntax
- Object Interface Enhancements
- Cost-Effectiveness MC Output
  - Cost-Effectiveness Acceptability Frontier
  - Net Benefits vs. WTP
- Two-Way C/E Sensitivity Analysis Isocontours

Multivariate Normal Distributions

- Allows for correlated normal distributions
- Described in detail in TechNote 16 http://www.treeage.com/files/pdfs/pro2009/technote16.pdf

Multivariate Normal Distributions

- Setup table containing correlations
  - Matrix includes correlations between each pair of individual distributions
  - Review correlations table…
- Perform Cholesky Decomposition on correlations via TreeAge Pro function
  - Transforms the correlations into a Cholesky Decomposition table
  - Review separate model that converts matrix and the converted output…

Multivariate Normal Distributions

- Add individual distributions' means and standard deviations
  - At bottom of Cholesky Decomposition table
  - Review matrix with means/std dev…
- Create distribution of type MultiNormal
  - Specify Cholesky Decomposition table
  - Review distribution type within model…

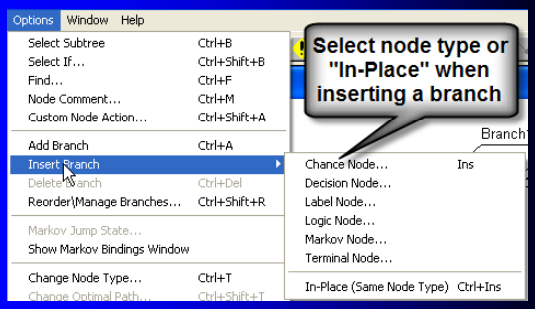
Multivariate Normal Distributions

- Reference the individual correlated distributions within the MultiNormal distribution by index/subindex
  - If index of the MultiNormal distribution were 5, refer to two individual correlated distributions Dist(5; 1), Dist(5; 2), etc.
  - Review payoff expressions in model…
  - Review correlated output from simulation…
- Review TechNote and sample files on our website to use these techniques
  - http://www.treeage.com/files/pdfs/pro2009/technote16.pdf

New Branch Menu

- A new submenu offers more control over the operation of inserting a branch and node
- Specify the type of node to be created in the specified direction
- Do an "in-place" insert, which creates a new node of the same type as the currently selected node
  - Helps at the root of a clone master or clone copy

New Branch Menu



Tree Function Syntax

- Tree() syntax allows visible "subtrees" referenced in a master tree calculation and left "connected" to the last master tree node that called it
  - Open master tree and subtree in same app window
  - Show Tree function, specifically the 3rd argument
  - Run roll back on master tree

Tree Function Syntax

- Variable Definitions window in subtree shows definitions that can be inherited from the currently connected master tree node/path
  - Show variable definitions pane in subtree

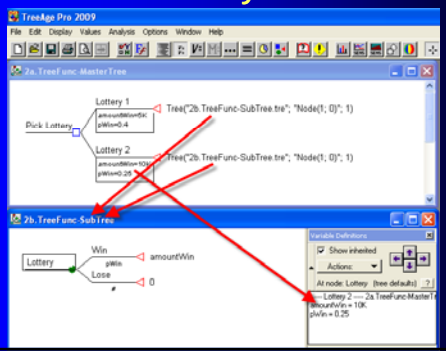
Tree Function Syntax

- Enables debugging of a subsidiary tree via direct analysis commands
  - Uses variable definitions inherited from the last calling master tree node/path
  - Roll back subtree

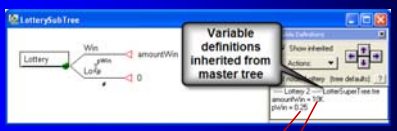
Tree Function Syntax

- Navigation is enabled from the root of the subsidiary tree back to the calling master node using the left arrow key
  - Show navigation from subtree to master tree

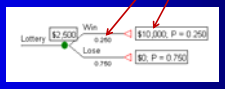
Tree Function Syntax



Tree Function Syntax



- Roll back on subtree uses variable definitions inherited from master tree based on last "connection"



Object Interface Enhancements

- The Object Interface allows you to modify and analyze models through a programming/scripting interface
  - Requires the Excel Module (TP Excel and TP Suite)
  - Show documentation at http://server.treeage.com/ObjDocs/TP/

Object Interface Enhancements

- TreeObj object now supports Sensitivity Analysis (1-way and 2-way)
  - TreeObj.Sensitivity
  - TreeObj.SensitivityTwo
- NodeObj now provides access to the Node Outline to retrieve specific characteristics of a node
  - NodeObj.outline

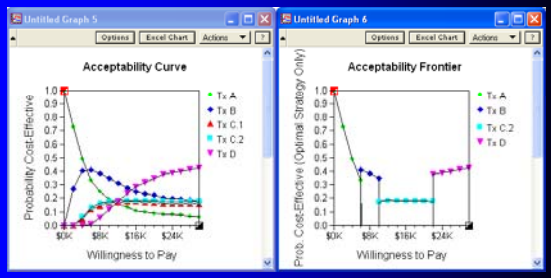
Cost-Effectiveness Acceptability Frontier

- This feature requires the Healthcare Module (TP Healthcare and TP Suite)
- New cost-effectiveness Monte Carlo simulation graphing option
  - Open C/E model with distributions
  - Run rollback to show mean values
  - Run PSA simulation

Cost-Effectiveness Acceptability Frontier

- Shows varying "acceptability" of the possibly changing optimal strategy, as the CE threshold (e.g., willingness-to-pay/"WTP", or weight on effect) is increased
  - Create Acceptability Curve graph
  - Create Acceptability Frontier graph

Cost-Effectiveness Acceptability Frontier

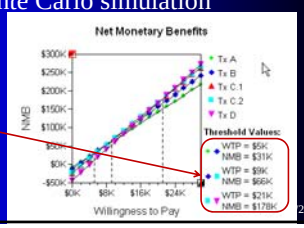


Cost-Effectiveness Acceptability Frontier

- Note that some probabilistic sensitivity analyses, the strategy that is most cost-effective for the highest percentage of simulation iterations for any given WTP is not necessarily the optimal strategy based on that WTP
  - The frontier graph addresses this by showing the percentage of iterations for the preferred strategy only
  - In the previous slide, note that Tx C.2 is the preferred strategy even though Tx B and Tx D were most cost-effective for higher percentages of iterations
    - In this case because Tx C.1 and Tx C.2 split similar iterations

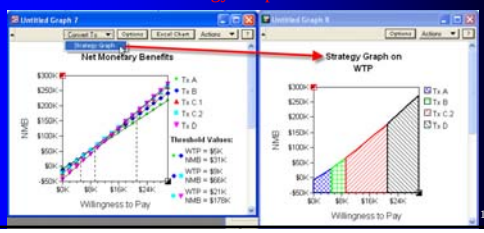
Net Benefits vs. WTP

- This feature requires the Healthcare Module (TP Healthcare and TP Suite)
- The Net Benefits vs. WTP cost-effectiveness Monte Carlo simulation graph has been updated to show threshold information
  - Create the NMB vs. WTP graph



Net Benefits vs. WTP

- An option was added to convert the graph to a strategy graph display, which clearly identifies the optimal strategy for varying WTP
  - Convert to the Strategy Graph

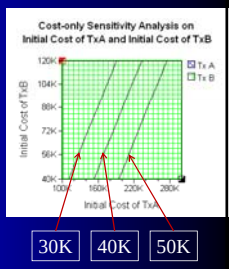


Two-Way C/E Sensitivity Analysis Isocontours

- Under C/E calculations, the 2-way region graph has an option to calculate Costs and Effects separately
  - Via Cancel button in Net Benefits dialog
  - Divides visible regions based on cost only
  - Open IsoContours model
  - Run 2-Way Sensitivity Analysis
  - Click Cancel on Net Benefits dialog

Two-Way C/E Sensitivity Analysis Isocontours

- Region graph shows that Tx B is less costly at all variable ranges (while Tx A is more effective)
- If two strategies, users can then use the Graph Options to add isocontour lines to show ICER thresholds
  - Add isocontours (30K, 40K, 50K)
- Isocontours show ICER thresholds at different combinations of the two sensitivity analysis variables

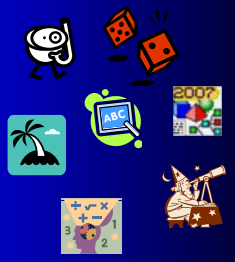


Two-Way C/E Sensitivity Analysis Isocontours

- v2009 corrects the problem of extra lines being drawn when "asymptotes" exist
  - Intervals containing changes in dominance and points where ICER is negative infinity/undefined/positive infinity
- v2009 also places thresholds more accurately and correctly draws negative ICER isocontours where dominance exists
- Temporary Net Monetary Benefits calculations are used to locate thresholds

Summary

- Questions?



Webinar Feedback & Materials

- Please provide feedback
  - Via GoToMeeting survey
- Materials available at
  - http://server.treeage.com/treeagepro/training/webinars.asp