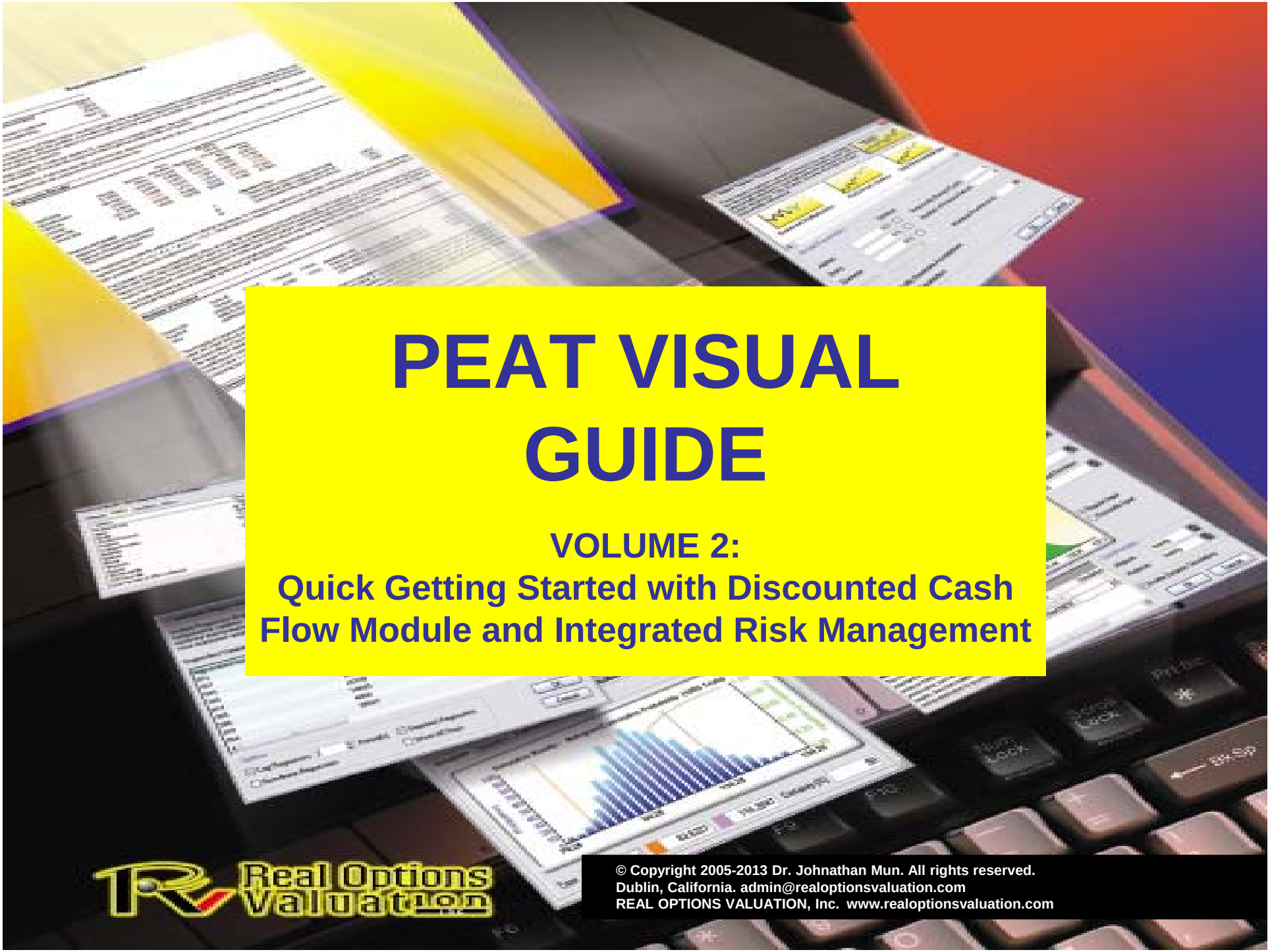


PEAT VISUAL GUIDE

VOLUME 2:
Quick Getting Started with Discounted Cash Flow Module and Integrated Risk Management

Real Options Valuation

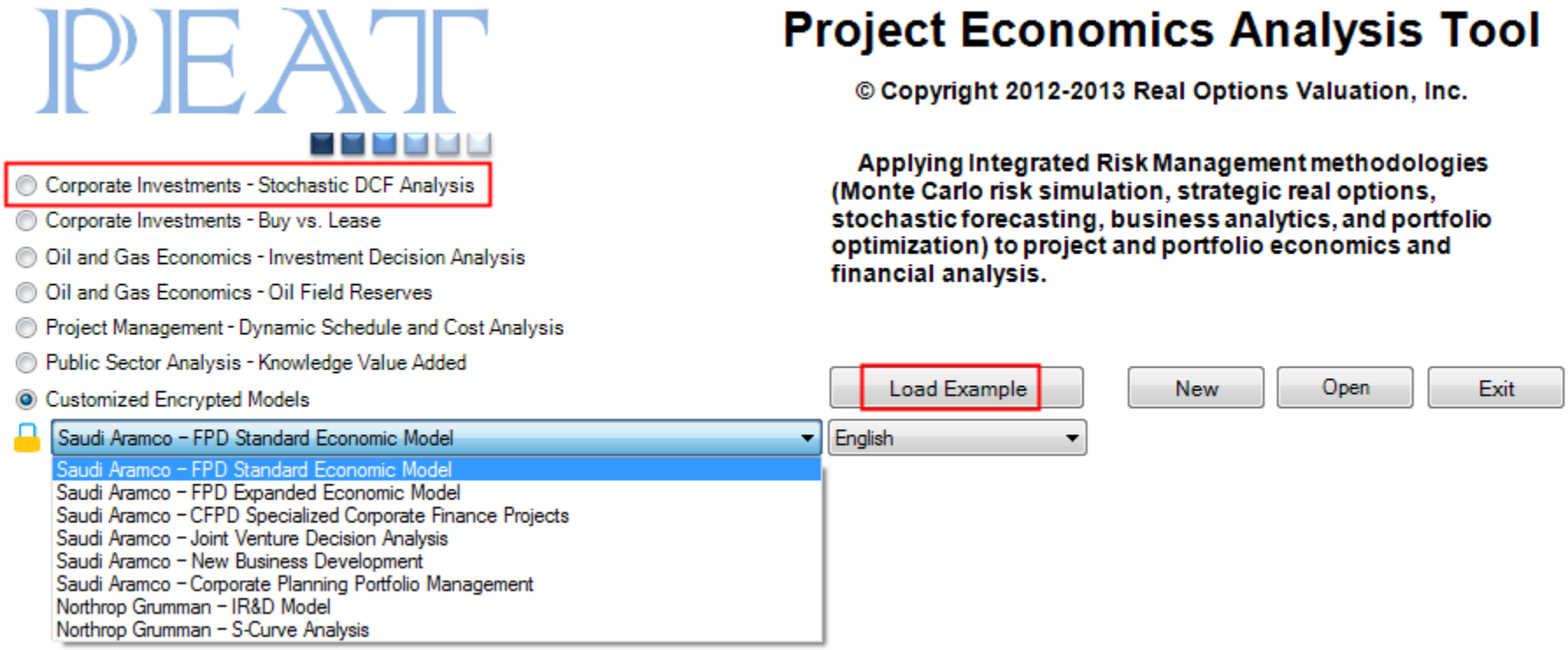
Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Instructions

- This is a quick getting started guide, not a detailed user manual. See the user manual and related books for more technical information.
- Text in RED is instructions, text in BLUE is notes for your information only.
- This visual guide showcases the Discounted Cash Flow module and summarizes how the following methods are implemented and run in PEAT using an example model:
  - DCF Metrics (Net Present Value, Internal Rate of Return, Modified Internal Rate of Return, Profitability Index, Return on Investment, Payback Period, and Discounted Payback Period), for individual projects/options and within a Portfolio
  - Analytics (Tornado Analysis for identifying critical success factors, and Scenario Analysis for identifying hot spots)
  - Risk Simulations (running tens of thousands of simulation trials to determine probabilistic risk metrics, comparing dynamic sensitivities of inputs, and comparing risk metrics and returns across multiple projects)
  - Real Options Strategies (visual representation of strategies with decision trees and strategy trees)
  - Real Options Valuation (computes the values of each individual real options path)
  - Portfolio Optimization (budget allocation and optimal project selection subject to budget and other strategic constraints)
  - Management Dashboards (create multiple results dashboards for management)
  - Knowledge and Training Center (quick lessons on using PEAT, project economics basics, and getting started videos)

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

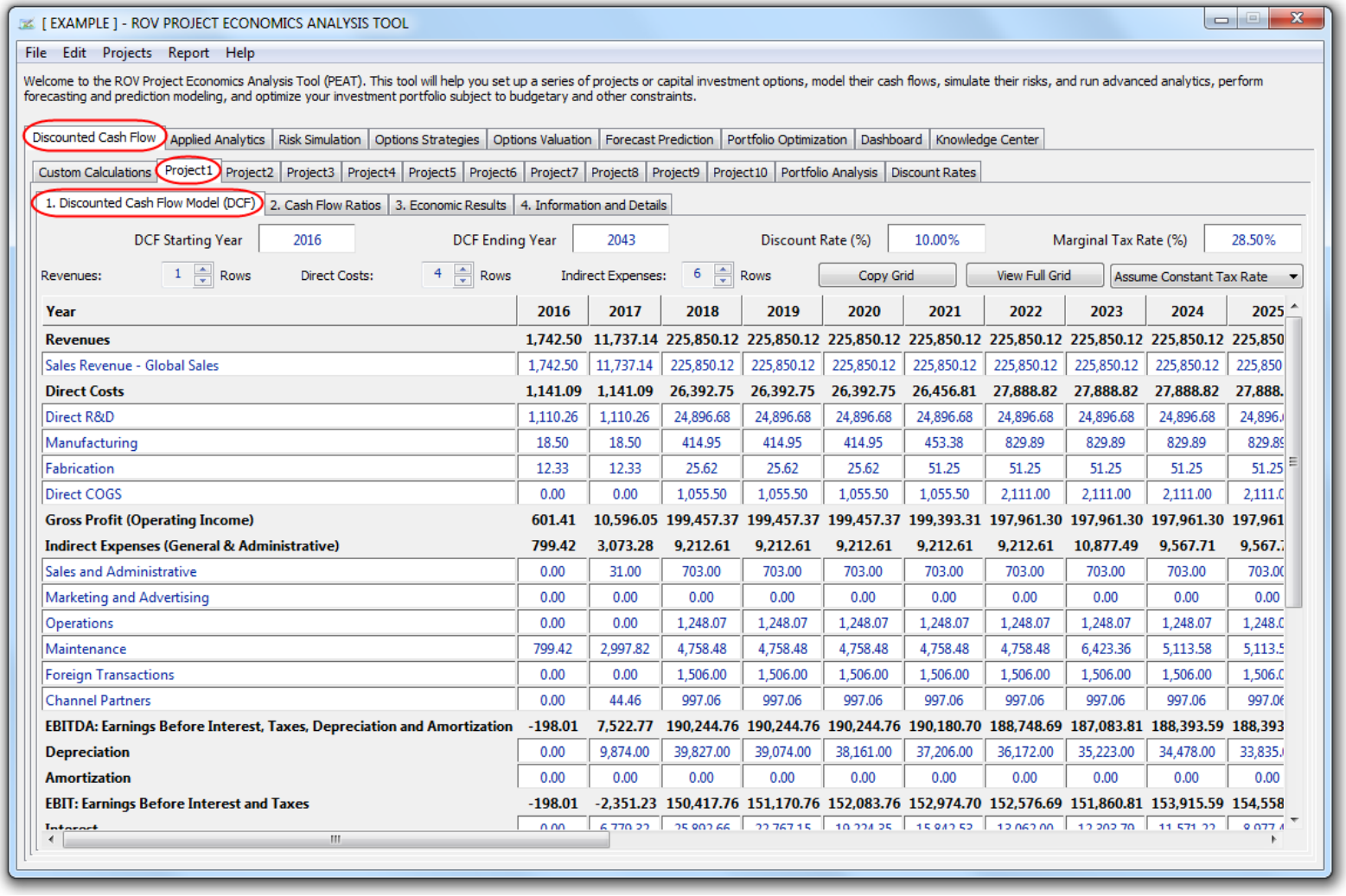
1. Start PEAT and Select “Corporate Investments – Stochastic Discount Cash Flow (DCF) Analysis”
2. Click “Load Example”



Additional customized “Modules” will be added over time. Click on “Load Example” to follow along and walk through this Visual Guide…

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Go to “DCF | Project 1 | DCF” to see the sample model data loaded and ready to go

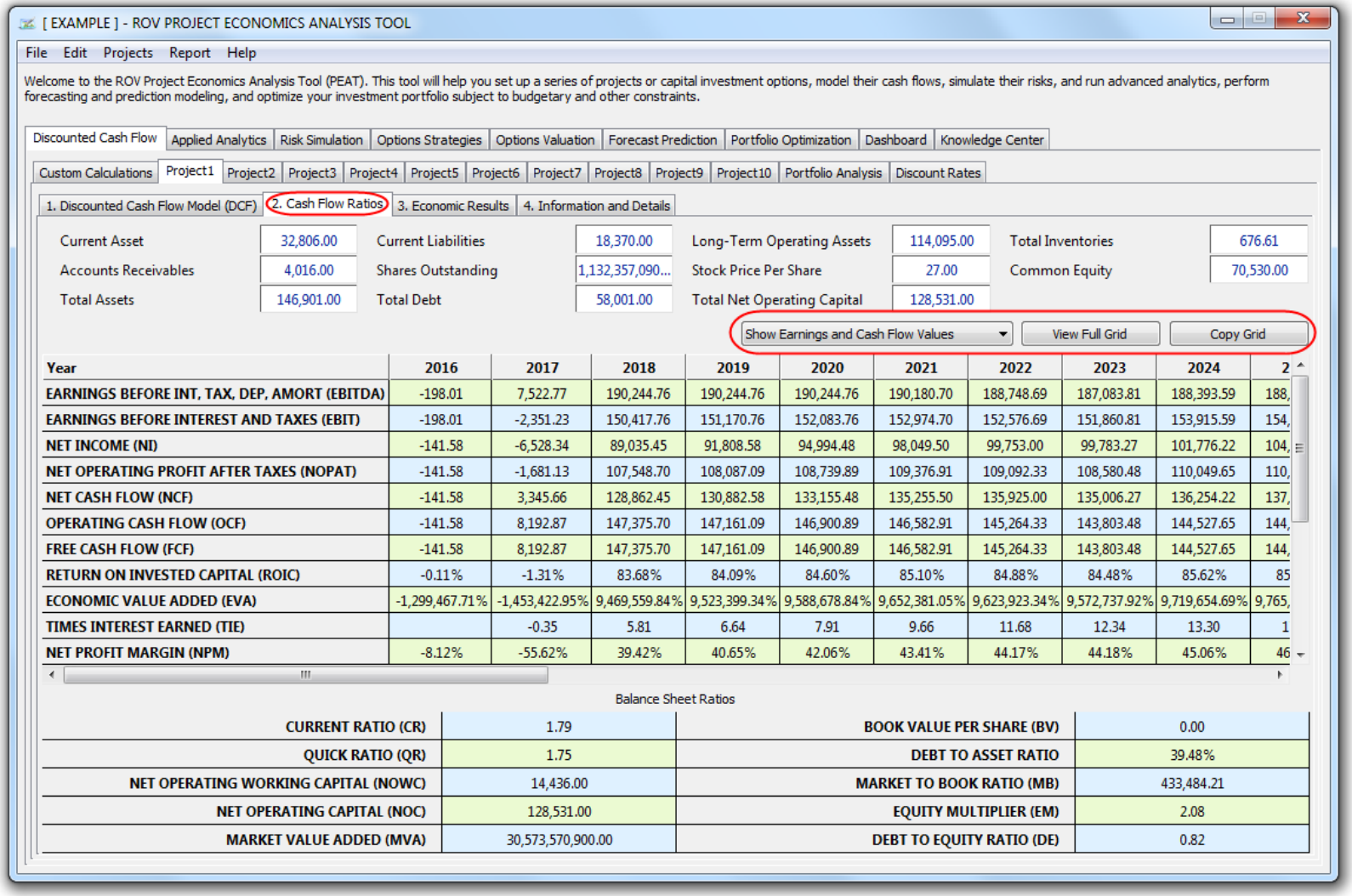


Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Revenues	**1,742.50**	**11,737.14**	**225,850.12**	**225,850.12**	**225,850.12**	**225,850.12**	**225,850.12**	**225,850.12**	**225,850.12**	**225,850**
Sales Revenue - Global Sales	1,742.50	11,737.14	225,850.12	225,850.12	225,850.12	225,850.12	225,850.12	225,850.12	225,850.12	225,850
Direct Costs	**1,141.09**	**1,141.09**	**26,392.75**	**26,392.75**	**26,392.75**	**26,456.81**	**27,888.82**	**27,888.82**	**27,888.82**	**27,888.**
Direct R&D	1,110.26	1,110.26	24,896.68	24,896.68	24,896.68	24,896.68	24,896.68	24,896.68	24,896.68	24,896.
Manufacturing	18.50	18.50	414.95	414.95	414.95	453.38	829.89	829.89	829.89	829.8
Fabrication	12.33	12.33	25.62	25.62	25.62	51.25	51.25	51.25	51.25	51.25
Direct COGS	0.00	0.00	1,055.50	1,055.50	1,055.50	1,055.50	2,111.00	2,111.00	2,111.00	2,111.0
Gross Profit (Operating Income)	**601.41**	**10,596.05**	**199,457.37**	**199,457.37**	**199,457.37**	**199,393.31**	**197,961.30**	**197,961.30**	**197,961.30**	**197,961**
Indirect Expenses (General & Administrative)	**799.42**	**3,073.28**	**9,212.61**	**9,212.61**	**9,212.61**	**9,212.61**	**9,212.61**	**10,877.49**	**9,567.71**	**9,567.**
Sales and Administrative	0.00	31.00	703.00	703.00	703.00	703.00	703.00	703.00	703.00	703.0
Marketing and Advertising	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operations	0.00	0.00	1,248.07	1,248.07	1,248.07	1,248.07	1,248.07	1,248.07	1,248.07	1,248.0
Maintenance	799.42	2,997.82	4,758.48	4,758.48	4,758.48	4,758.48	4,758.48	6,423.36	5,113.58	5,113.5
Foreign Transactions	0.00	0.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.00	1,506.0
Channel Partners	0.00	44.46	997.06	997.06	997.06	997.06	997.06	997.06	997.06	997.06
EBITDA: Earnings Before Interest, Taxes, Depreciation and Amortization	**-198.01**	**7,522.77**	**190,244.76**	**190,244.76**	**190,244.76**	**190,180.70**	**188,748.69**	**187,083.81**	**188,393.59**	**188,393**
Depreciation	0.00	9,874.00	39,827.00	39,074.00	38,161.00	37,206.00	36,172.00	35,223.00	34,478.00	33,835.
Amortization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EBIT: Earnings Before Interest and Taxes	**-198.01**	**-2,351.23**	**150,417.76**	**151,170.76**	**152,083.76**	**152,974.70**	**152,576.69**	**151,860.81**	**153,915.59**	**154,558**
Interest	0.00	6,770.32	25,892.66	22,767.15	19,224.35	15,842.53	13,062.00	12,303.70	11,571.22	8,977.

In your own model, simply enter the required inputs (input boxes) or Copy | Paste from Excel or another data source. You can add/reduce the number of rows to show for each category, and Copy Grid to paste into Excel/Word/PowerPoint, etc.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Go to “DCF | Project 1 | Cash Flow Ratios” and see the sample inputs and results



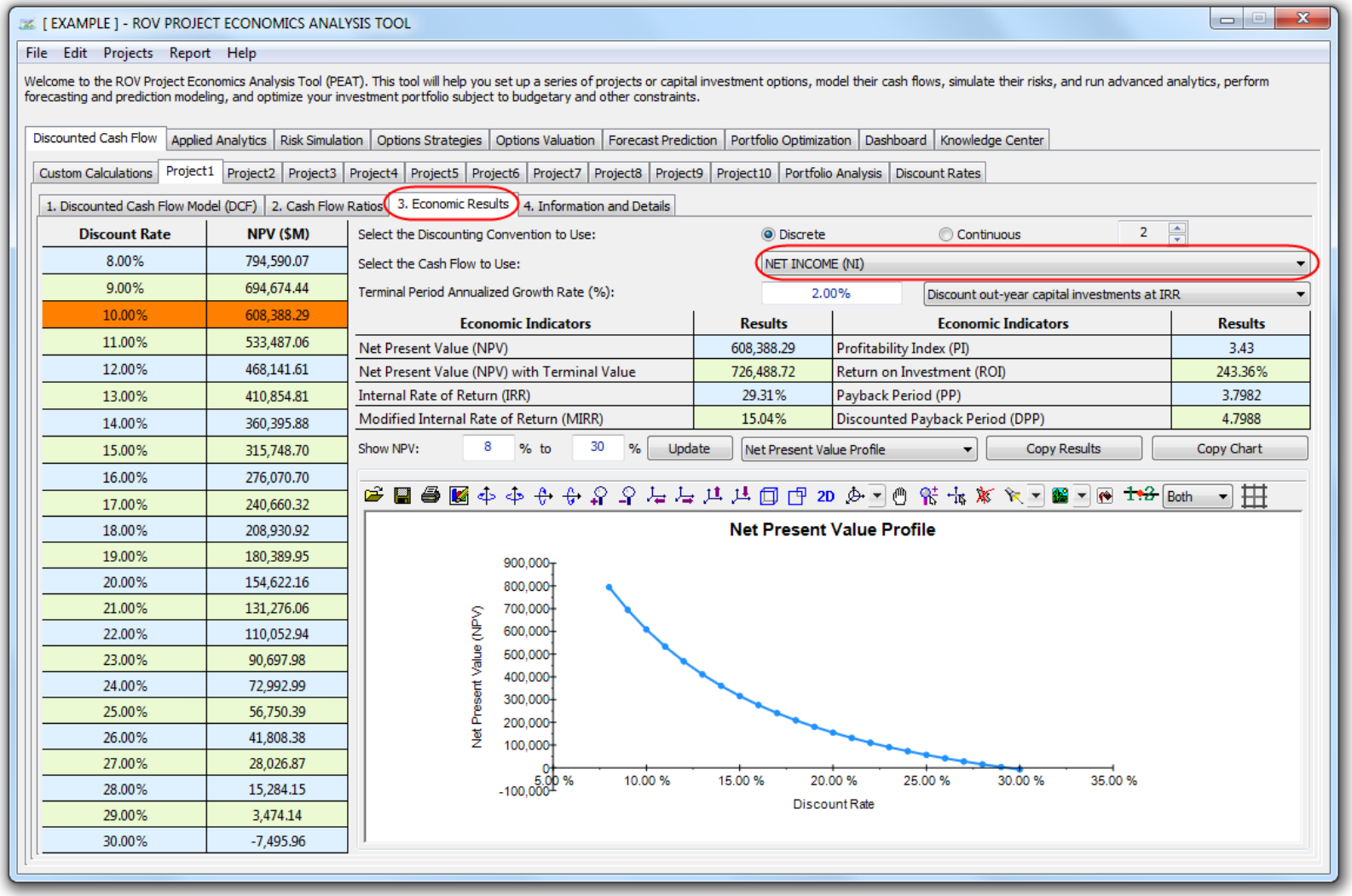
Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2
EARNINGS BEFORE INT, TAX, DEP, AMORT (EBITDA)	-198.01	7,522.77	190,244.76	190,244.76	190,244.76	190,180.70	188,748.69	187,083.81	188,393.59	188,
EARNINGS BEFORE INTEREST AND TAXES (EBIT)	-198.01	-2,351.23	150,417.76	151,170.76	152,083.76	152,974.70	152,576.69	151,860.81	153,915.59	154,
NET INCOME (NI)	-141.58	-6,528.34	89,035.45	91,808.58	94,994.48	98,049.50	99,753.00	99,783.27	101,776.22	104,
NET OPERATING PROFIT AFTER TAXES (NOPAT)	-141.58	-1,681.13	107,548.70	108,087.09	108,739.89	109,376.91	109,092.33	108,580.48	110,049.65	110,
NET CASH FLOW (NCF)	-141.58	3,345.66	128,862.45	130,882.58	133,155.48	135,255.50	135,925.00	135,006.27	136,254.22	137,
OPERATING CASH FLOW (OCF)	-141.58	8,192.87	147,375.70	147,161.09	146,900.89	146,582.91	145,264.33	143,803.48	144,527.65	144,
FREE CASH FLOW (FCF)	-141.58	8,192.87	147,375.70	147,161.09	146,900.89	146,582.91	145,264.33	143,803.48	144,527.65	144,
RETURN ON INVESTED CAPITAL (ROIC)	-0.11%	-1.31%	83.68%	84.09%	84.60%	85.10%	84.88%	84.48%	85.62%	85
ECONOMIC VALUE ADDED (EVA)	-1,299,467.71%	-1,453,422.95%	9,469,559.84%	9,523,399.34%	9,588,678.84%	9,652,381.05%	9,623,923.34%	9,572,737.92%	9,719,654.69%	9,765,
TIMES INTEREST EARNED (TIE)		-0.35	5.81	6.64	7.91	9.66	11.68	12.34	13.30	1
NET PROFIT MARGIN (NPM)	-8.12%	-55.62%	39.42%	40.65%	42.06%	43.41%	44.17%	44.18%	45.06%	46

CURRENT RATIO (CR)	1.79	BOOK VALUE PER SHARE (BV)	0.00
QUICK RATIO (QR)	1.75	DEBT TO ASSET RATIO	39.48%
NET OPERATING WORKING CAPITAL (NOWC)	14,436.00	MARKET TO BOOK RATIO (MB)	433,484.21
NET OPERATING CAPITAL (NOC)	128,531.00	EQUITY MULTIPLIER (EM)	2.08
MARKET VALUE ADDED (MVA)	30,573,570,900.00	DEBT TO EQUITY RATIO (DE)	0.82

You can click on the droplist to view results in dollars or in relative percentages, View Full Grid or to Copy Grid to paste into another software like Excel…

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

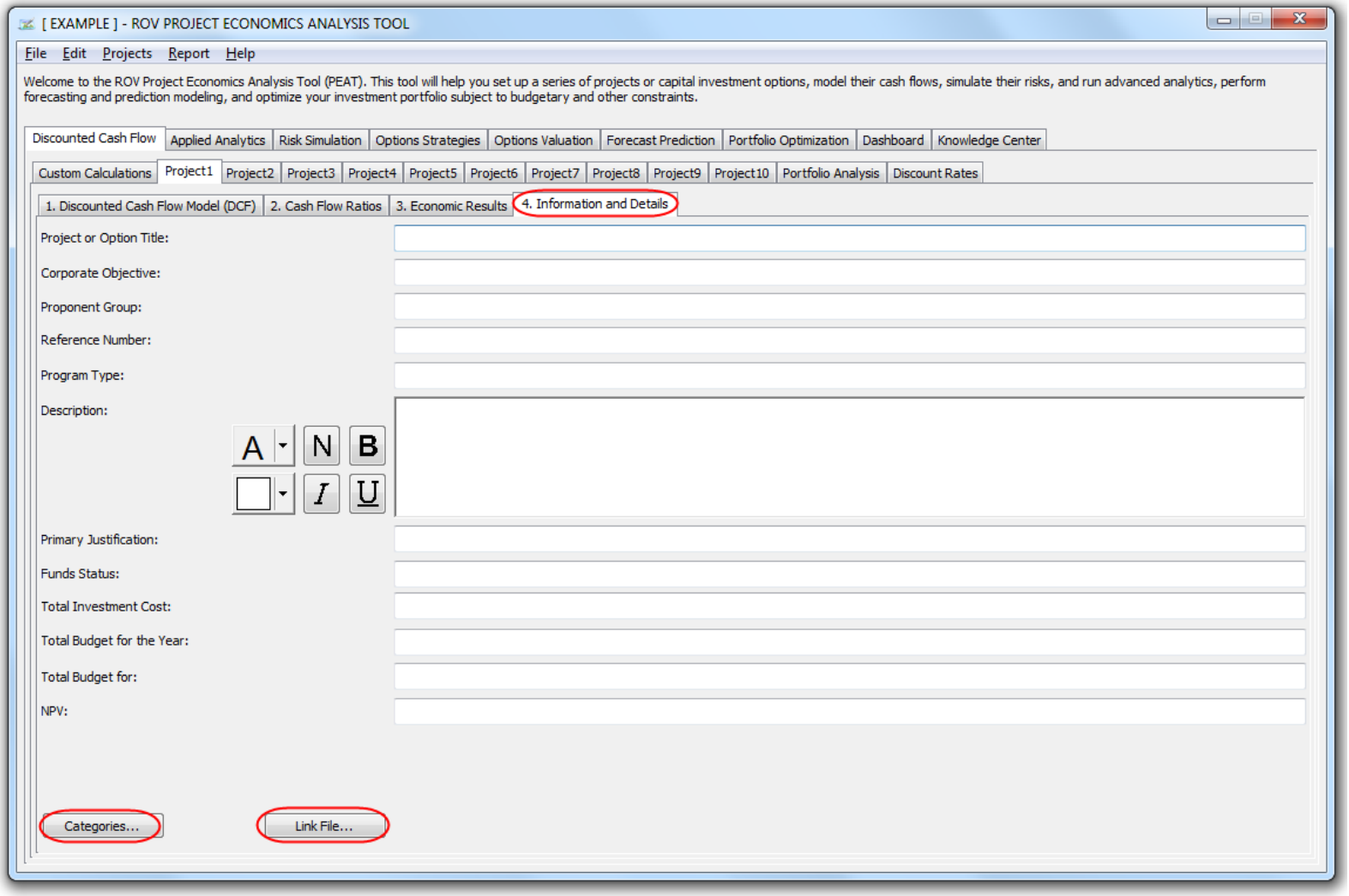
Go to “DCF | Project 1 | Economic Results” and see the computed results.
No other actions are required other than playing with some droplists…



You can compute the project economic and financial metrics using different cash flows by choosing the relevant droplist items. You can also change the type of chart to display from the chart droplist as well as change the look and feel of the chart as required…

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

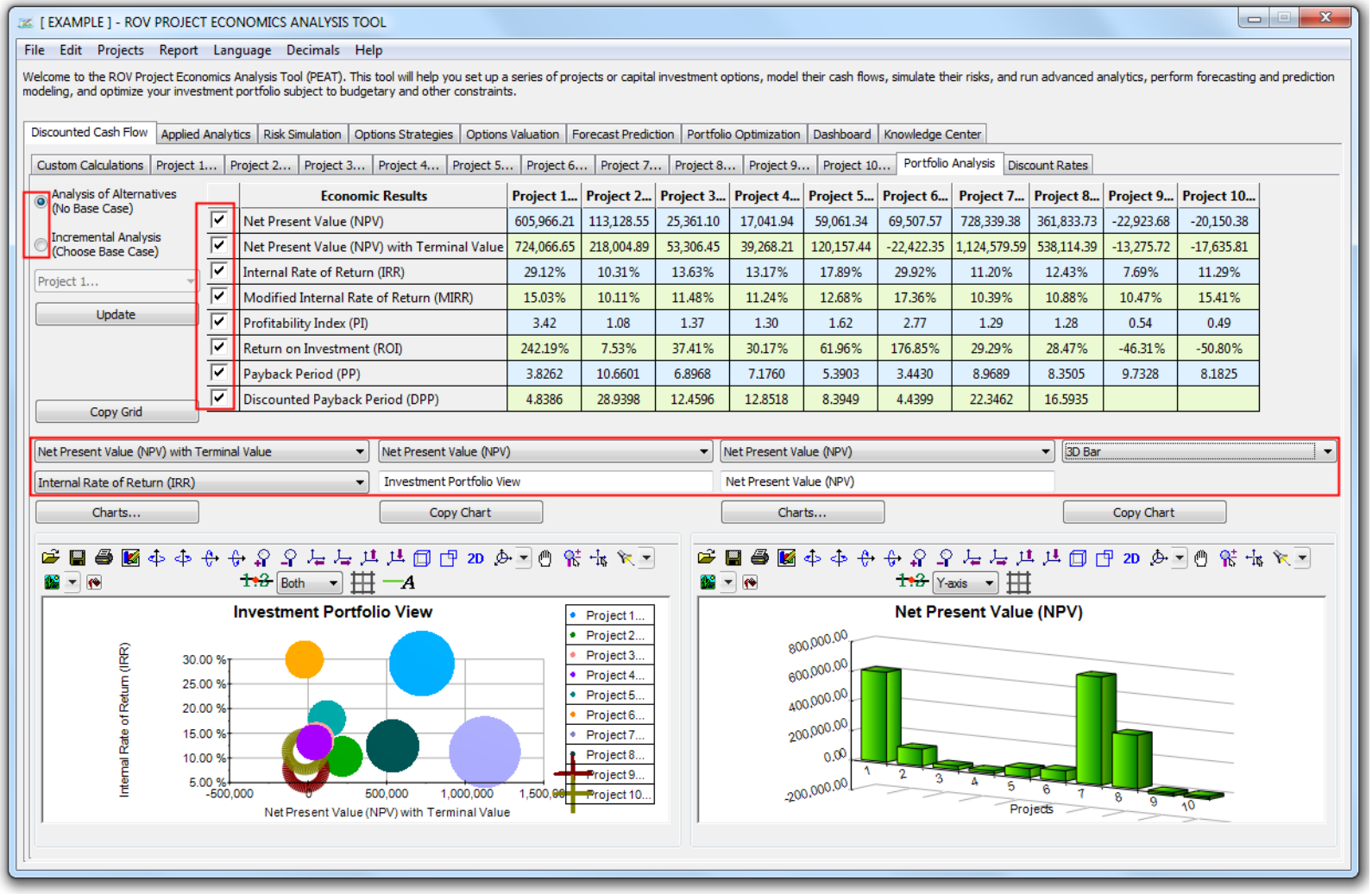
Go to “DCF | Project 1 | Information and Details”



You can enter in the project specific details as required, and replicate this on other projects as required… Categories can be customized and you can also link external files that may be relevant to this project using the Link File button… When you are done with this Project, note that you can continue to view other projects or proceed to the next step… As information, you can DUPLICATE, ADD, DELETE Project tabs as required without any limit…

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

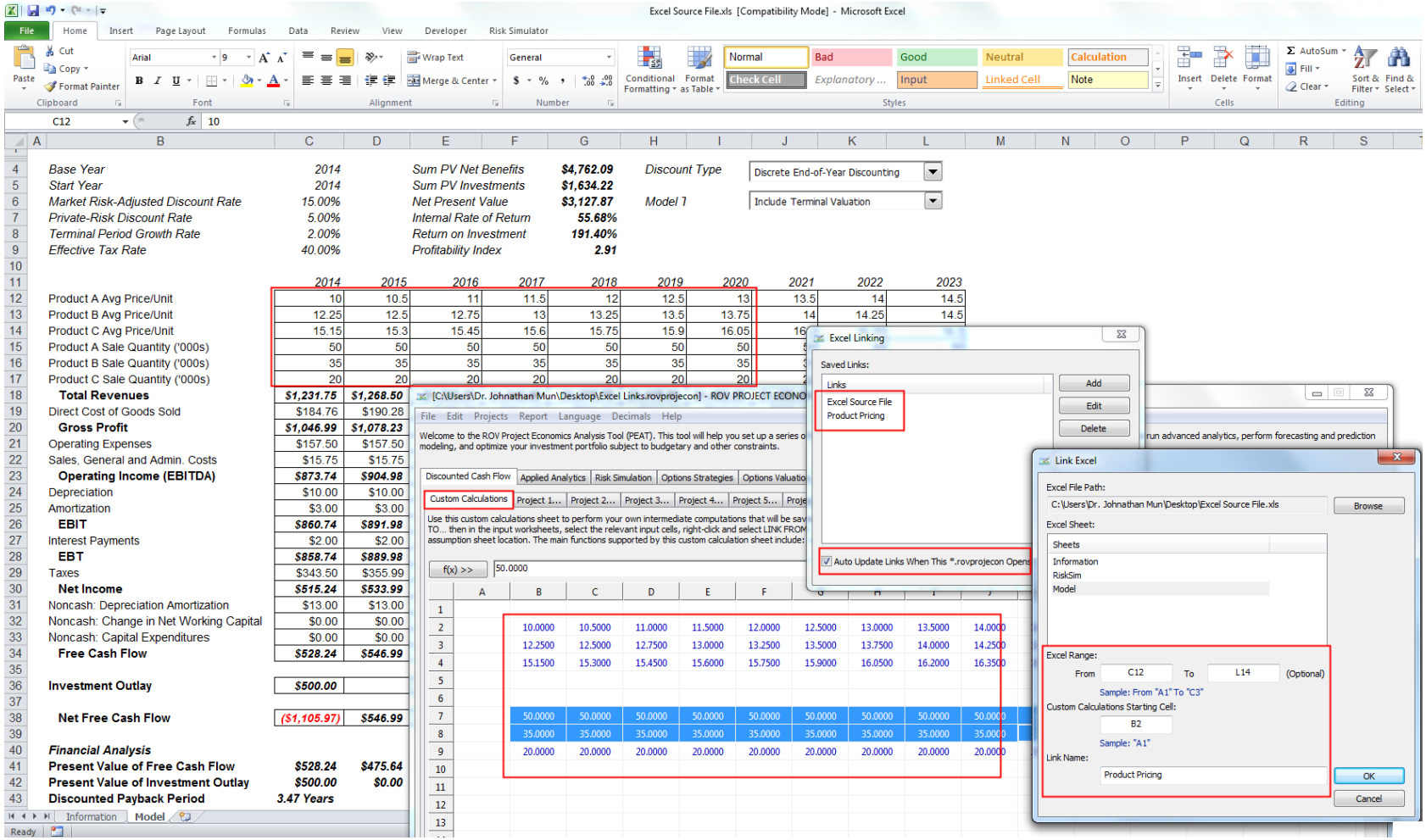
Go to “DCF | Portfolio Analysis” and play with some of the checklists and droplists…



All projects are summarized in this tab as a Portfolio. You can now compare all single point results of the main project economic metrics, modify and view different charts, copy the results and charts to Excel or PowerPoint, and change details as well as the look and feel of the charts as required…

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

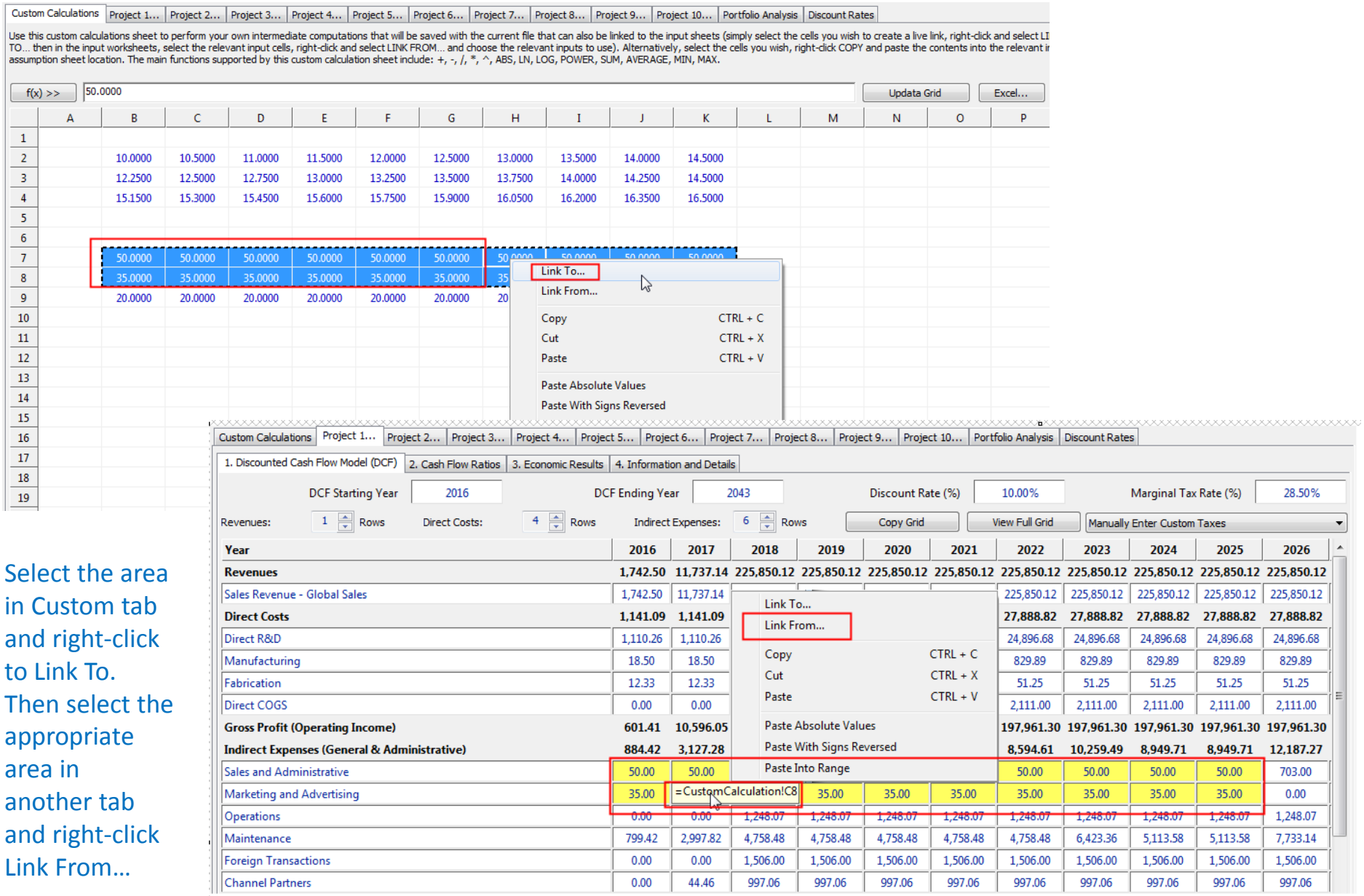
Go to “DCF | Custom Calculations” and play with the worksheet and its functions, as well as perform some Live Excel Links



Custom Calculations tab’s Excel button allows you to add/edit/delete Live Links from Excel to this tab. You can add multiple links from multiple workbooks and worksheets into this single tab. Reopening the file will auto update the data if you check the Auto Update option. From Custom Worksheet, you can now link to other tabs within PEAT.

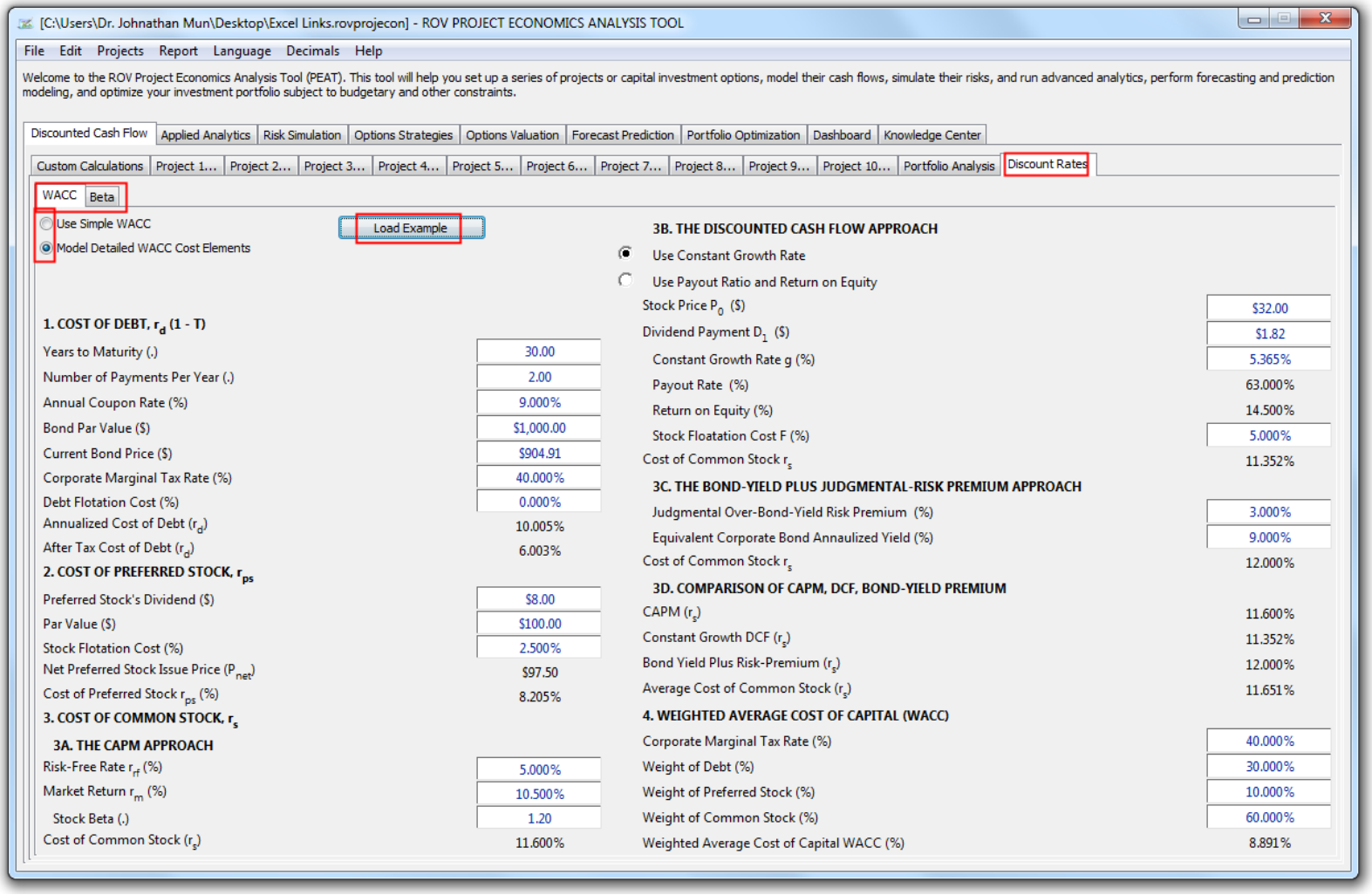
Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Go to “DCF | Custom Calculations” enable links from/to other tabs in PEAT



Select the area in Custom tab and right-click to Link To. Then select the appropriate area in another tab and right-click Link From…

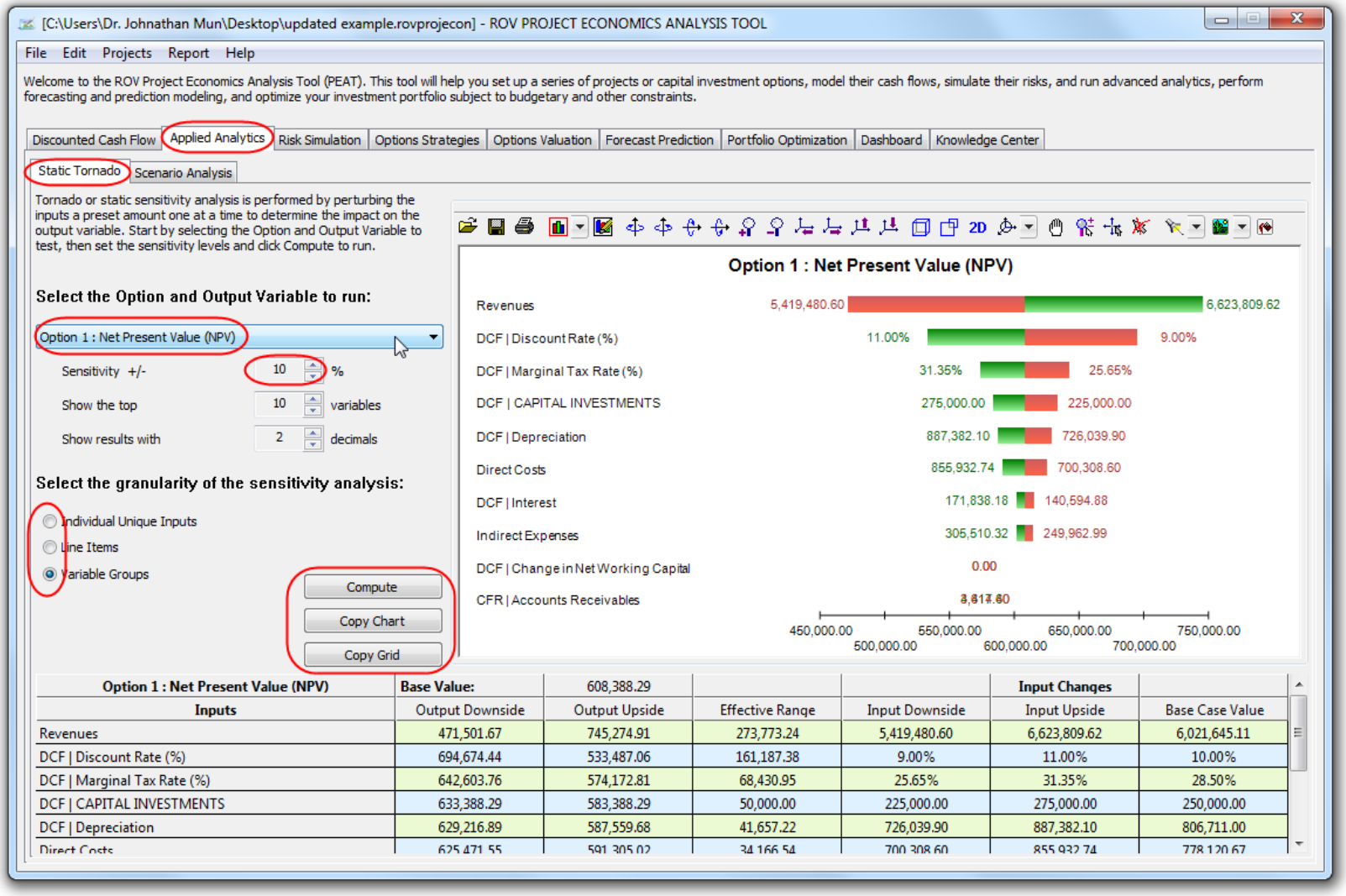
Go to “Discounted Cash Flow | Discount Rates” and load an example to run



You can compute the weighted average cost of capital (WACC) and CAPM Beta estimates here. Load example data to get started or enter your assumptions to compute WACC. You can also paste stock prices and stock returns to compute a market-based Beta coefficient.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

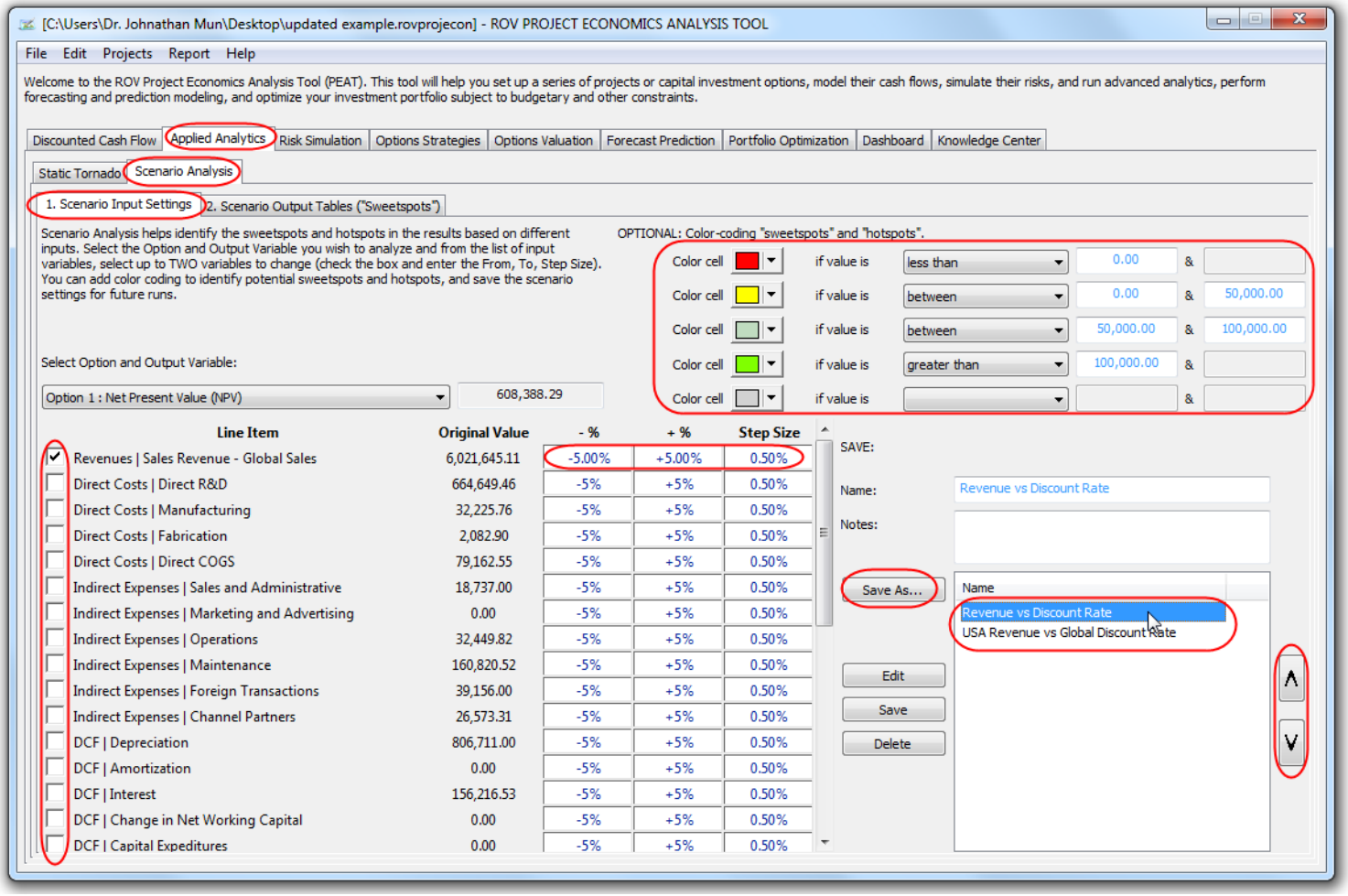
Go to "Applied Analytics | Static Tornado" and play with some of the checklists…



You can view the Tornado analysis (critical success factors) of each Project's economic metrics, copy the chart and sensitivity results, change the look and feel of the charts, and re-run the analysis based on your sensitivity settings etc.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

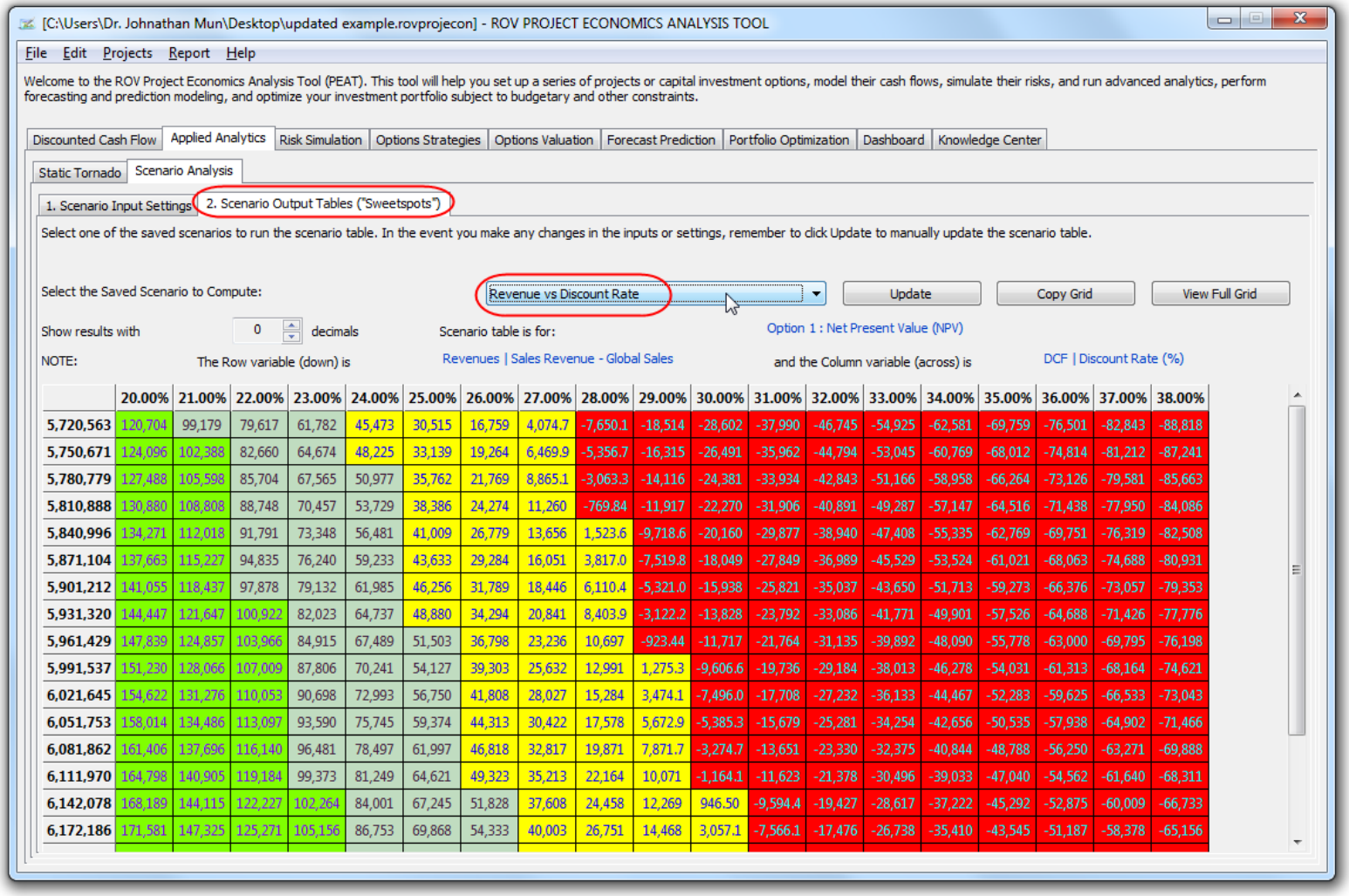
Go to “Applied Analytics | Scenario Analysis | Scenario Input Settings”
Double click on a saved scenario model (bottom right) to view its settings or to make and save your own scenario model…



You can create and save multiple Scenario Analyses by selecting the Option droplist, checking up to two inputs, modifying the ranges to test, choosing color settings if required, entering a name, and “Save As” the scenario model… when done, proceed to the next step to view the results. You can Edit a saved model as well.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Go to “Applied Analytics | Scenario Analysis | Scenario Output Tables”
Select a saved scenario model from the droplist to run



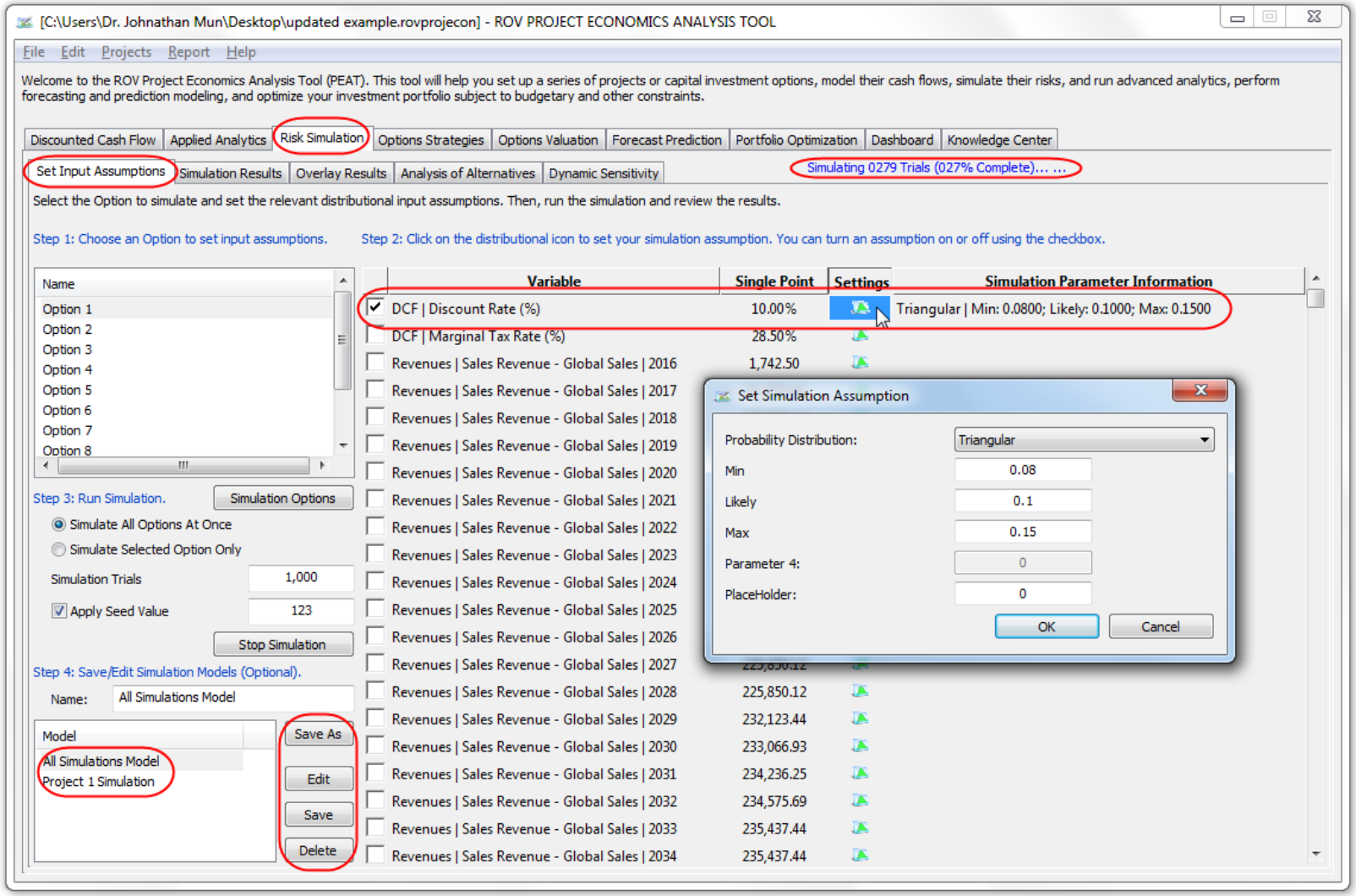
	20.00%	21.00%	22.00%	23.00%	24.00%	25.00%	26.00%	27.00%	28.00%	29.00%	30.00%	31.00%	32.00%	33.00%	34.00%	35.00%	36.00%	37.00%	38.00%
5,720,563	120,704	99,179	79,617	61,782	45,473	30,515	16,759	4,074.7	-7,650.1	-18,514	-28,602	-37,990	-46,745	-54,925	-62,581	-69,759	-76,501	-82,843	-88,818
5,750,671	124,096	102,388	82,660	64,674	48,225	33,139	19,264	6,469.9	-5,356.7	-16,315	-26,491	-35,962	-44,794	-53,045	-60,769	-68,012	-74,814	-81,212	-87,241
5,780,779	127,488	105,598	85,704	67,565	50,977	35,762	21,769	8,865.1	-3,063.3	-14,116	-24,381	-33,934	-42,843	-51,166	-58,958	-66,264	-73,126	-79,581	-85,663
5,810,888	130,880	108,808	88,748	70,457	53,729	38,386	24,274	11,260	-769.84	-11,917	-22,270	-31,906	-40,891	-49,287	-57,147	-64,516	-71,438	-77,950	-84,086
5,840,996	134,271	112,018	91,791	73,348	56,481	41,009	26,779	13,656	1,523.6	-9,718.6	-20,160	-29,877	-38,940	-47,408	-55,335	-62,769	-69,751	-76,319	-82,508
5,871,104	137,663	115,227	94,835	76,240	59,233	43,633	29,284	16,051	3,817.0	-7,519.8	-18,049	-27,849	-36,989	-45,529	-53,524	-61,021	-68,063	-74,688	-80,931
5,901,212	141,055	118,437	97,878	79,132	61,985	46,256	31,789	18,446	6,110.4	-5,321.0	-15,938	-25,821	-35,037	-43,650	-51,713	-59,273	-66,376	-73,057	-79,353
5,931,320	144,447	121,647	100,922	82,023	64,737	48,880	34,294	20,841	8,403.9	-3,122.2	-13,828	-23,792	-33,086	-41,771	-49,901	-57,526	-64,688	-71,426	-77,776
5,961,429	147,839	124,857	103,966	84,915	67,489	51,503	36,798	23,236	10,697	-923.44	-11,717	-21,764	-31,135	-39,892	-48,090	-55,778	-63,000	-69,795	-76,198
5,991,537	151,230	128,066	107,009	87,806	70,241	54,127	39,303	25,632	12,991	1,275.3	-9,606.6	-19,736	-29,184	-38,013	-46,278	-54,031	-61,313	-68,164	-74,621
6,021,645	154,622	131,276	110,053	90,698	72,993	56,750	41,808	28,027	15,284	3,474.1	-7,496.0	-17,708	-27,232	-36,133	-44,467	-52,283	-59,625	-66,533	-73,043
6,051,753	158,014	134,486	113,097	93,590	75,745	59,374	44,313	30,422	17,578	5,672.9	-5,385.3	-15,679	-25,281	-34,254	-42,656	-50,535	-57,938	-64,902	-71,466
6,081,862	161,406	137,696	116,140	96,481	78,497	61,997	46,818	32,817	19,871	7,871.7	-3,274.7	-13,651	-23,330	-32,375	-40,844	-48,788	-56,250	-63,271	-69,888
6,111,970	164,798	140,905	119,184	99,373	81,249	64,621	49,323	35,213	22,164	10,071	-1,164.1	-11,623	-21,378	-30,496	-39,033	-47,040	-54,562	-61,640	-68,311
6,142,078	168,189	144,115	122,227	102,264	84,001	67,245	51,828	37,608	24,458	12,269	946.50	-9,594.4	-19,427	-28,617	-37,222	-45,292	-52,875	-60,009	-66,733
6,172,186	171,581	147,325	125,271	105,156	86,753	69,868	54,333	40,003	26,751	14,468	3,057.1	-7,566.1	-17,476	-26,738	-35,410	-43,545	-51,187	-58,378	-65,156

You can view all your saved scenario models here by selecting them from the droplist, complete with color codes. You can copy the results grid as required for pasting into PowerPoint or Excel…

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Go to “Risk Simulation | Set Input Assumptions”

Double click on a saved simulation model to run (e.g., All Simulations Model)

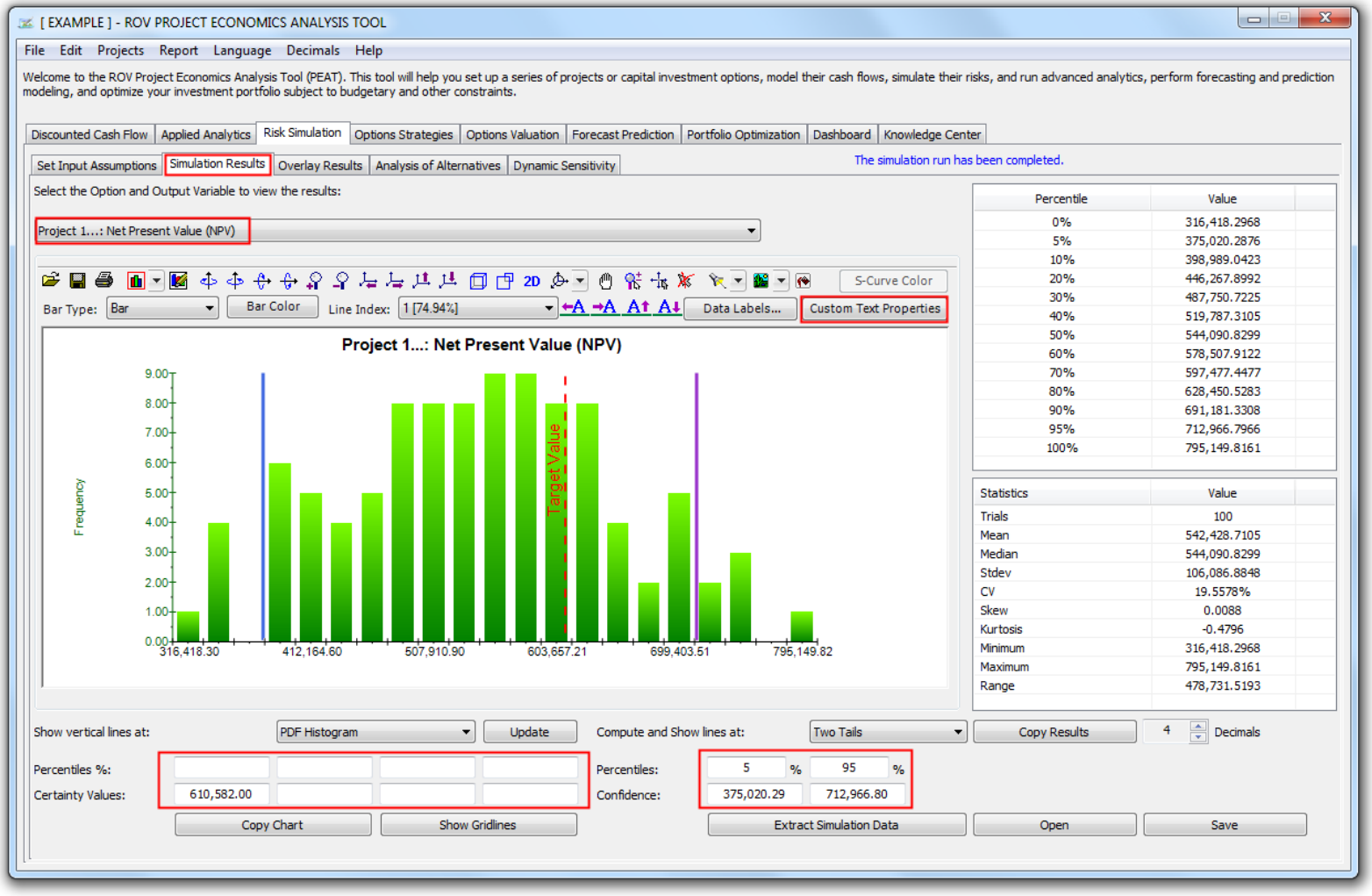


You can create and save your own risk simulation models by selecting the Option/Project, then checking the boxes of the input variables you wish to set assumptions on, entering the distributional inputs, and saving the model…

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Go to “Risk Simulation | Simulation Results”

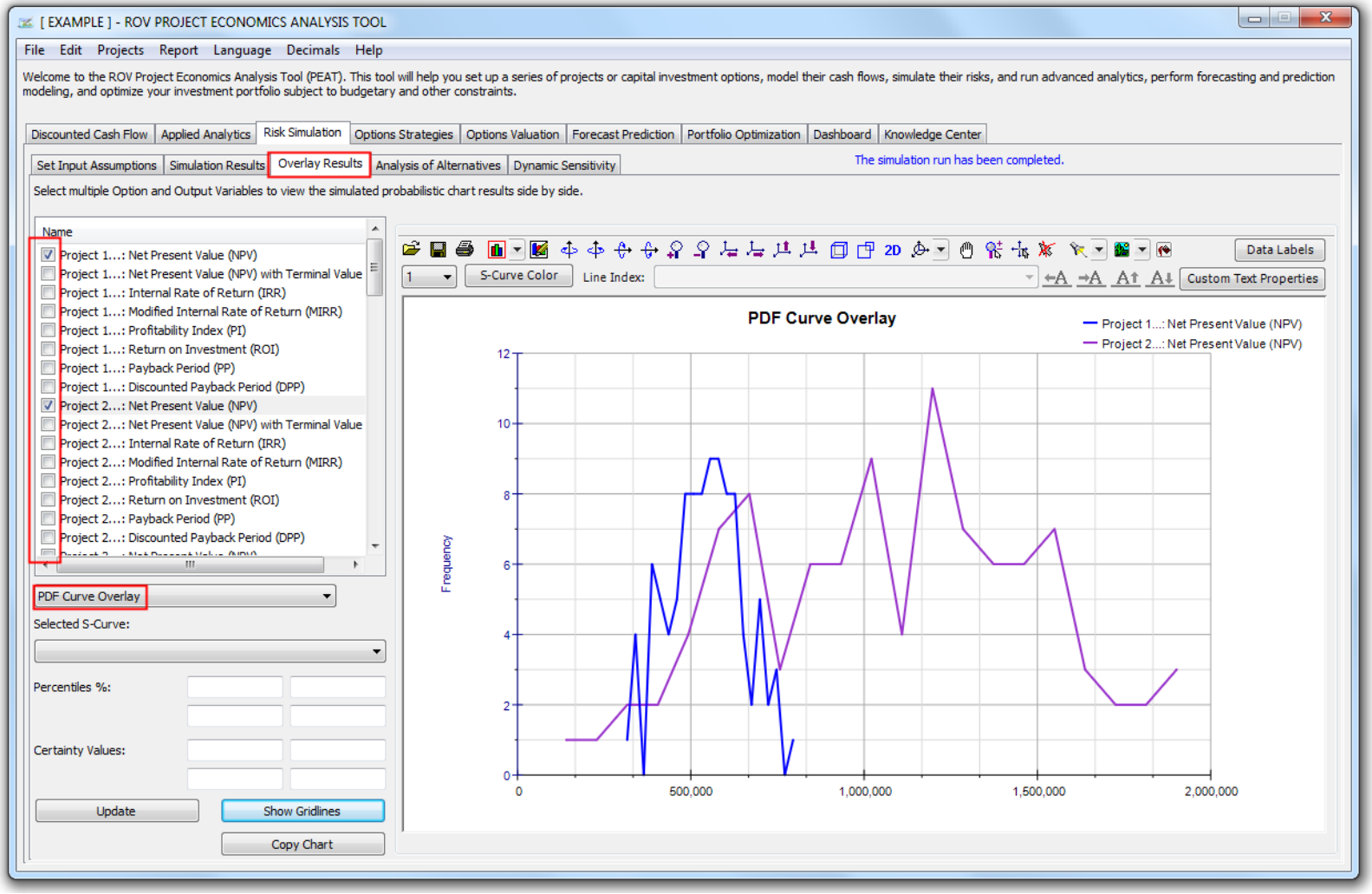
Type in some sample Percentiles to obtain Confidence Levels or vice versa…



The risk simulated results and respective statistics are shown in this tab. You can select the distribution tails (left, right, two-tails), type in confidence levels and obtain percentiles, or enter in percentiles to calculate the confidence values, edit/modify/copy the charts and extract the simulated results, etc.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

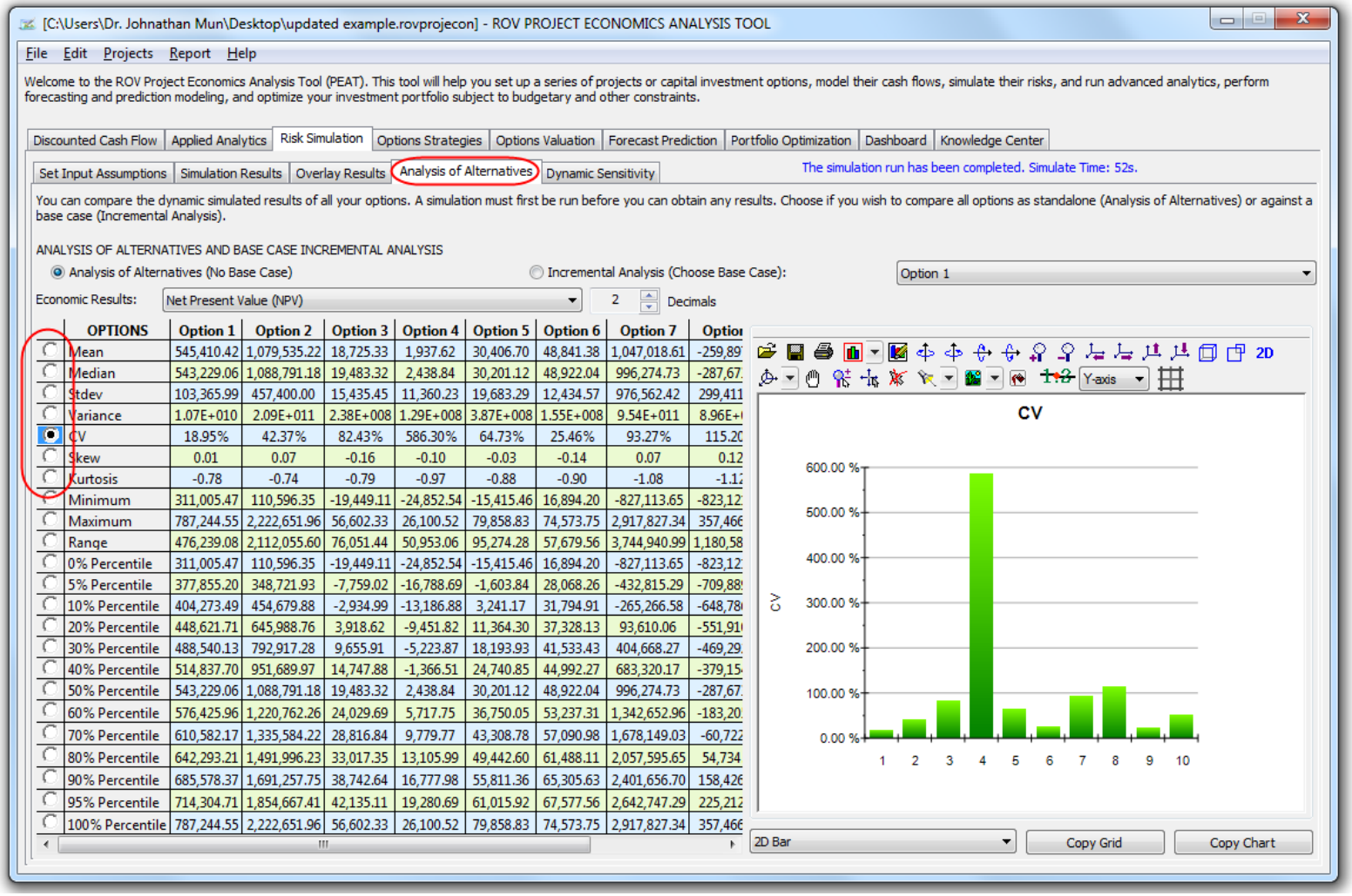
Go to “Risk Simulation | Overlay Results”
Select one or more output results and the chart type



You can “overlay” multiple risk simulated results over one another using this tool… Risk Simulation must first be run in order for this tab to be populated. You can add chart-specific percentiles and certainty lines as well as modify the chart’s look and feel or copy the chart for pasting into Excel or PowerPoint.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

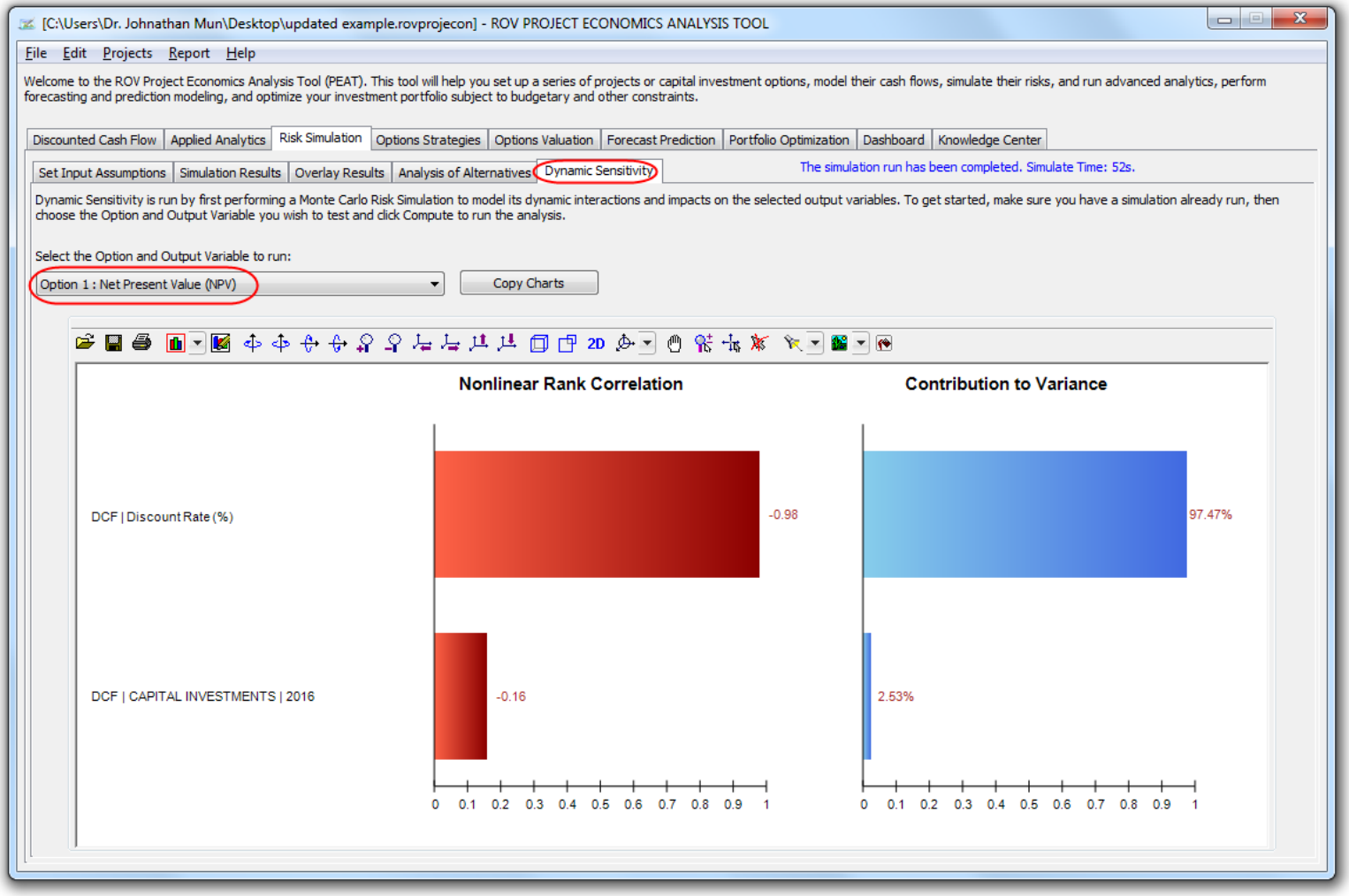
Go to “Risk Simulation | Analysis of Alternatives”



Similarly, you can view each Project or Option’s risk simulation results side by side as an Analysis of Alternative or as Incremental Analysis (please be aware that some statistics may not be appropriate to use for incremental analysis due to the nature of simulations).

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

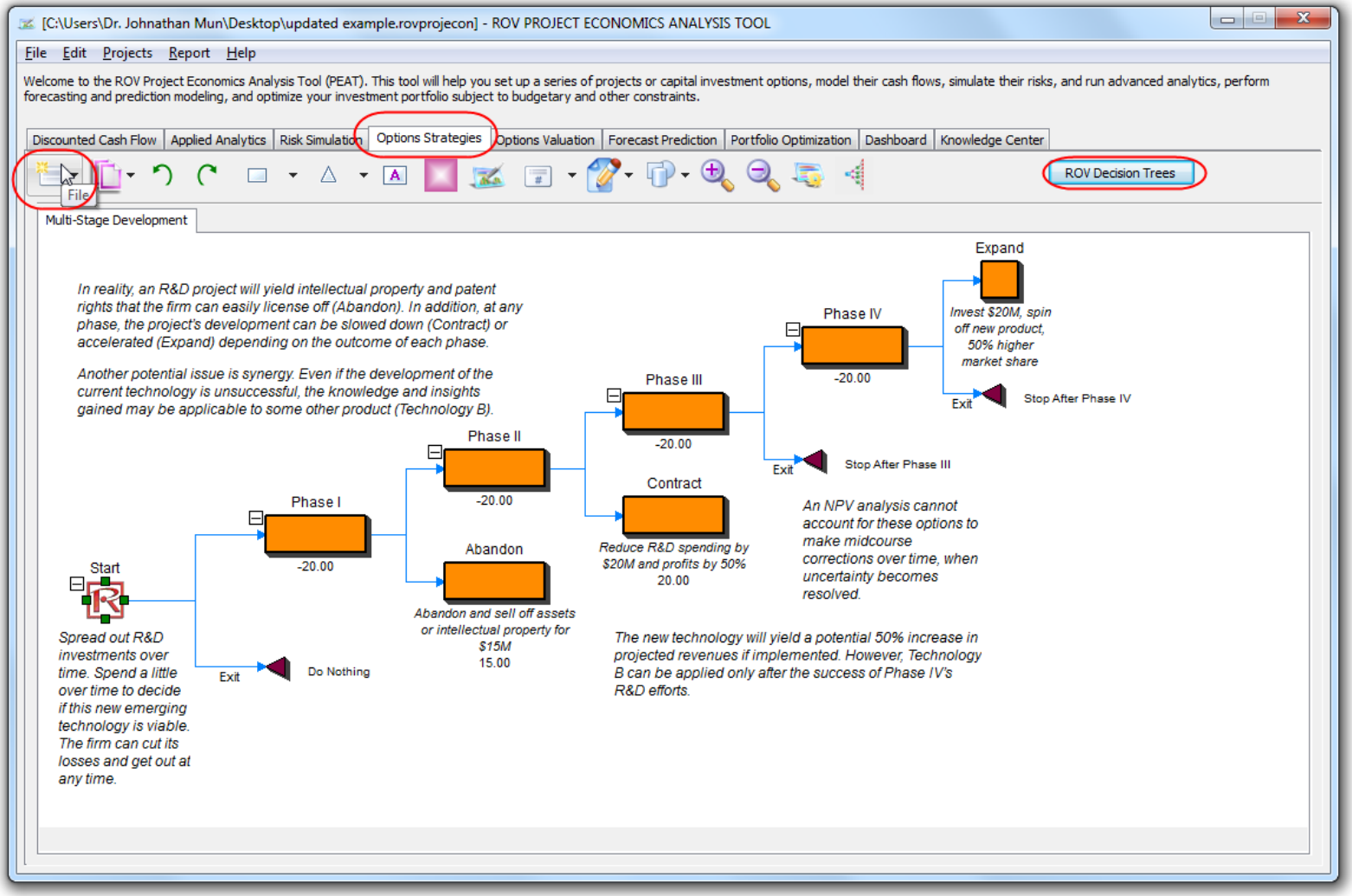
Go to “Risk Simulation | Dynamic Sensitivity” and select any output from the droplist



Tornado shows a static sensitivity whereas a Dynamic Sensitivity shows the impacts of each probabilistic input assumption on the risk simulated outcome where all inputs are changed simultaneously.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

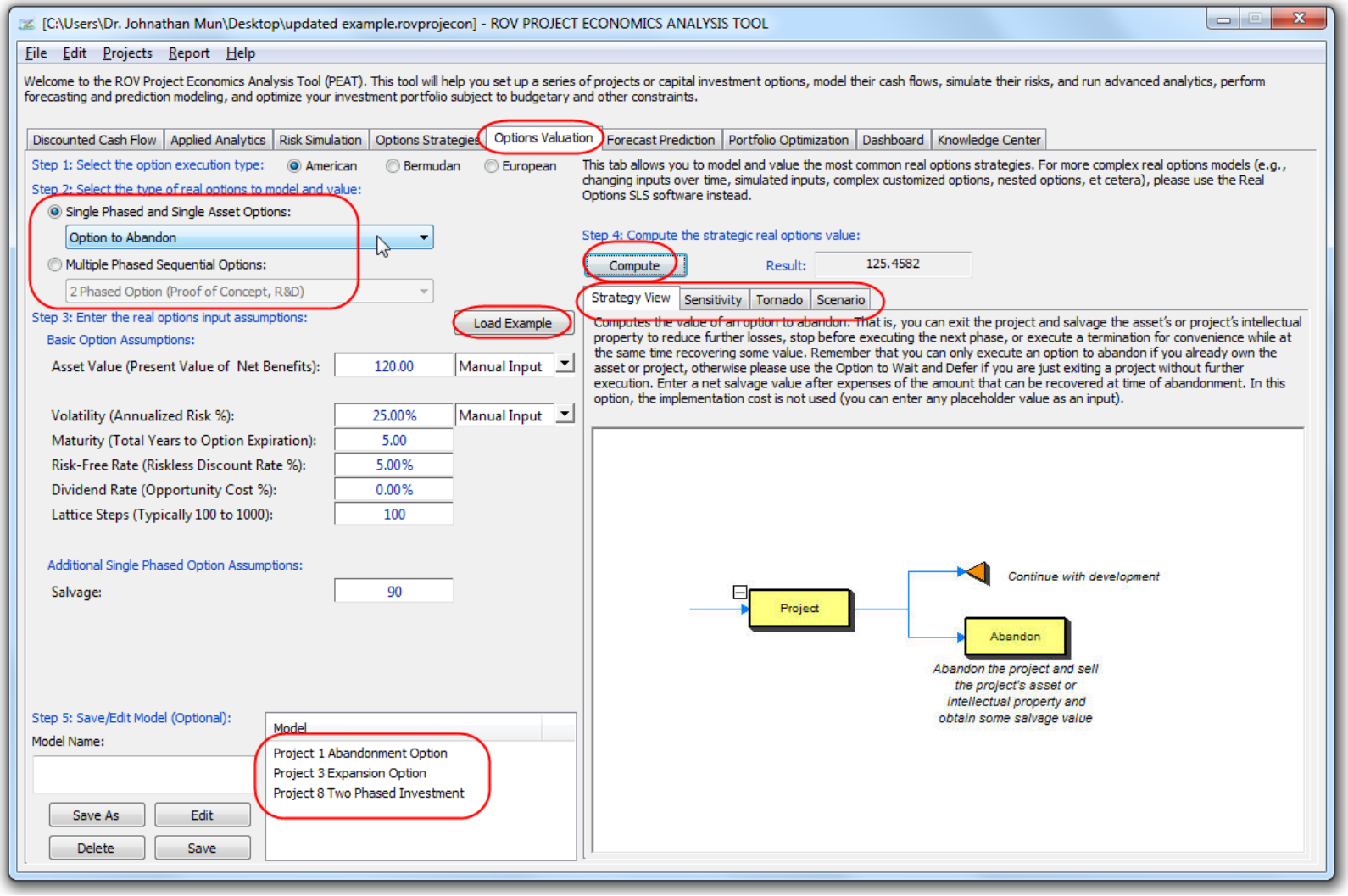
Go to “Options Strategies”



You can select any example model from the File icon, create your own strategy trees, or run example/create your own decision tree model. The last saved strategy tree model that is viewed will be opened the next time the PEAT profile is opened, assuming the corresponding strategy tree file has not changed its name or location. You can also run the ROV Decision Tree for stochastic simulations on decision trees.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

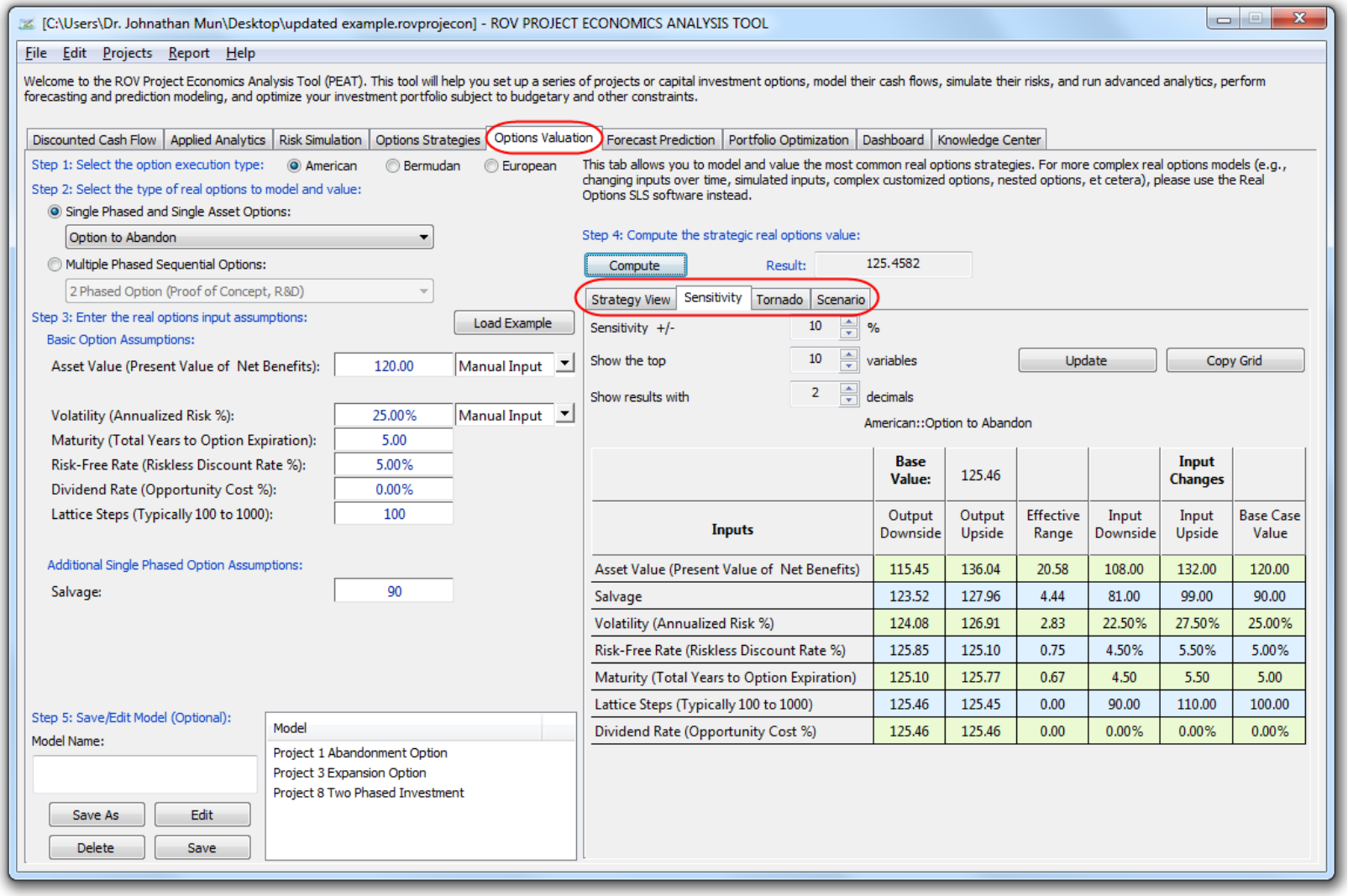
Go to “Options Valuation” and double click on any of the saved models to run them



The most commonly used real options models are preset for you in this tab. Start by selecting the option type and enter your inputs, click on Load Example to view a sample set of inputs as a guideline, or click on several available droplists to link to the relevant project’s values. Save the options model for later retrieval. You can also view a sample strategy tree of the selected option type, and view the sensitivity, tornado, and scenario analysis of the selected option.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

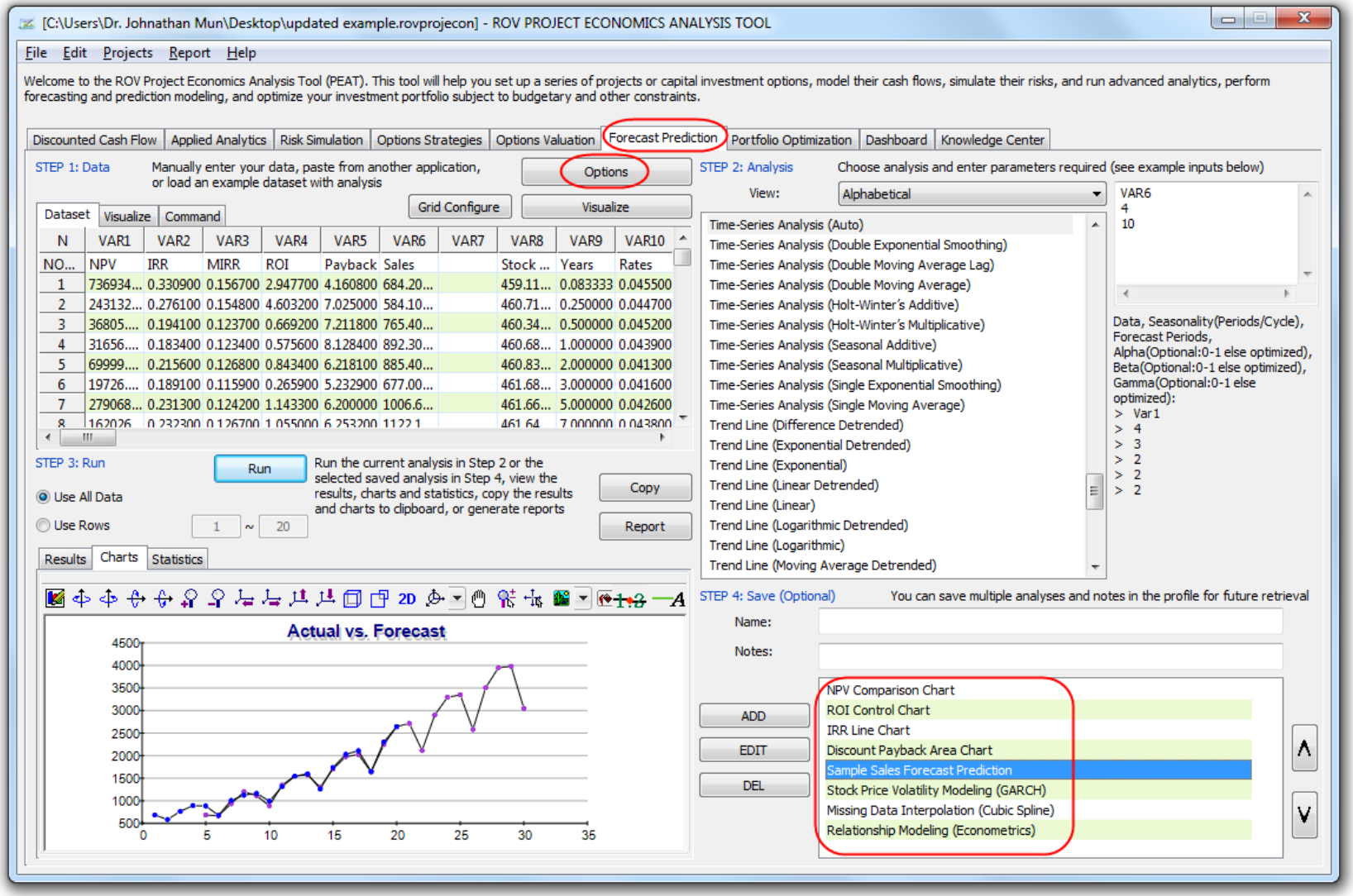
Go to “Options Valuation,” run a model, and go to the “Sensitivity” subtab



Double click on any saved model to run it. You can then view the model’s sensitivity, tornado, or scenario analysis results.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

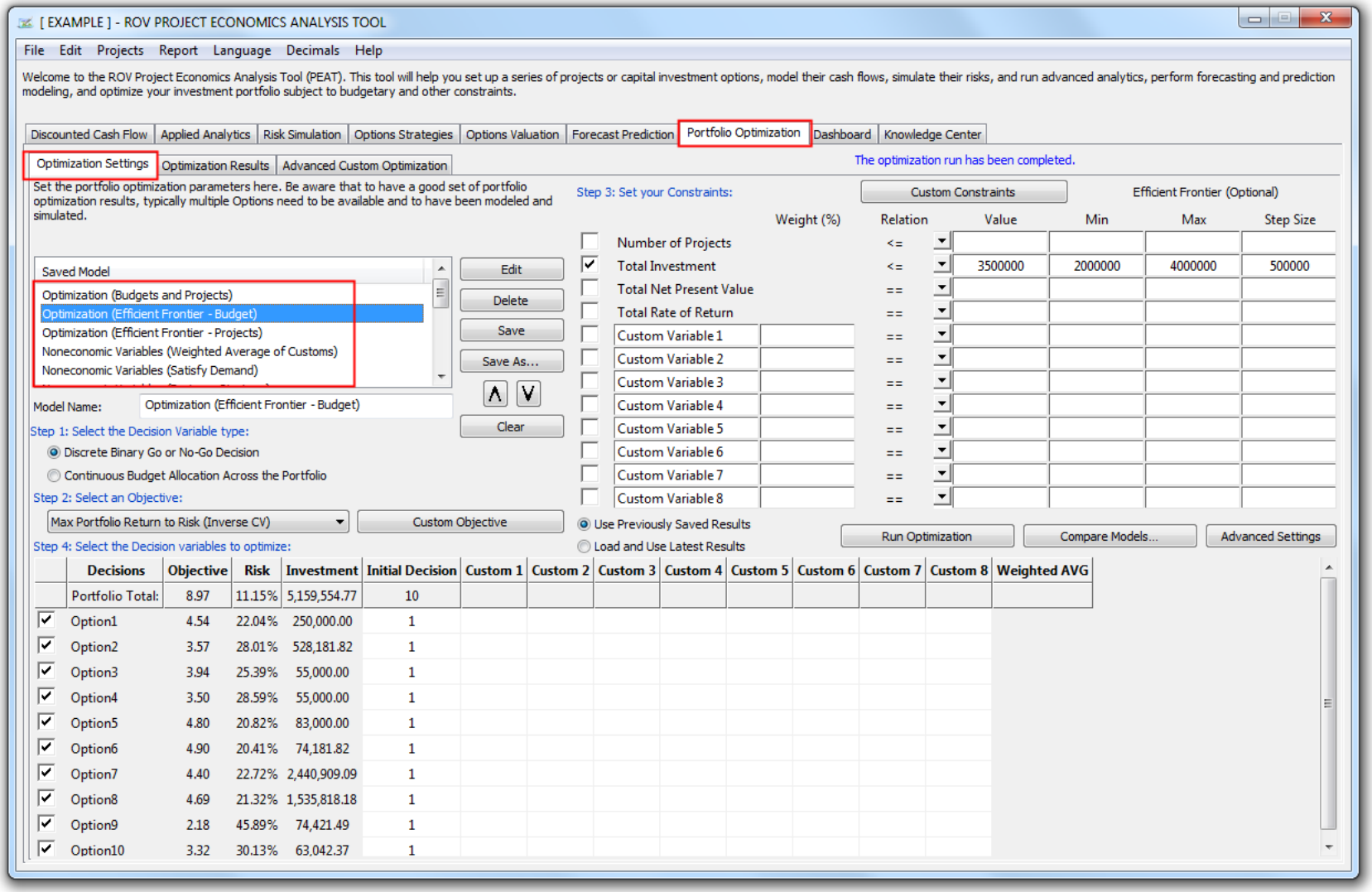
Go to “Forecast Prediction” and double click on any saved model to run



This tab has over 150 modeling and forecast methods available to run on your data. Follow the “Steps” and instructions to set up and save/retrieve your forecast model. Click on “Options” to open/load some example data and models or to save your forecast model as its own profile, or to recover an existing set of data/models.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

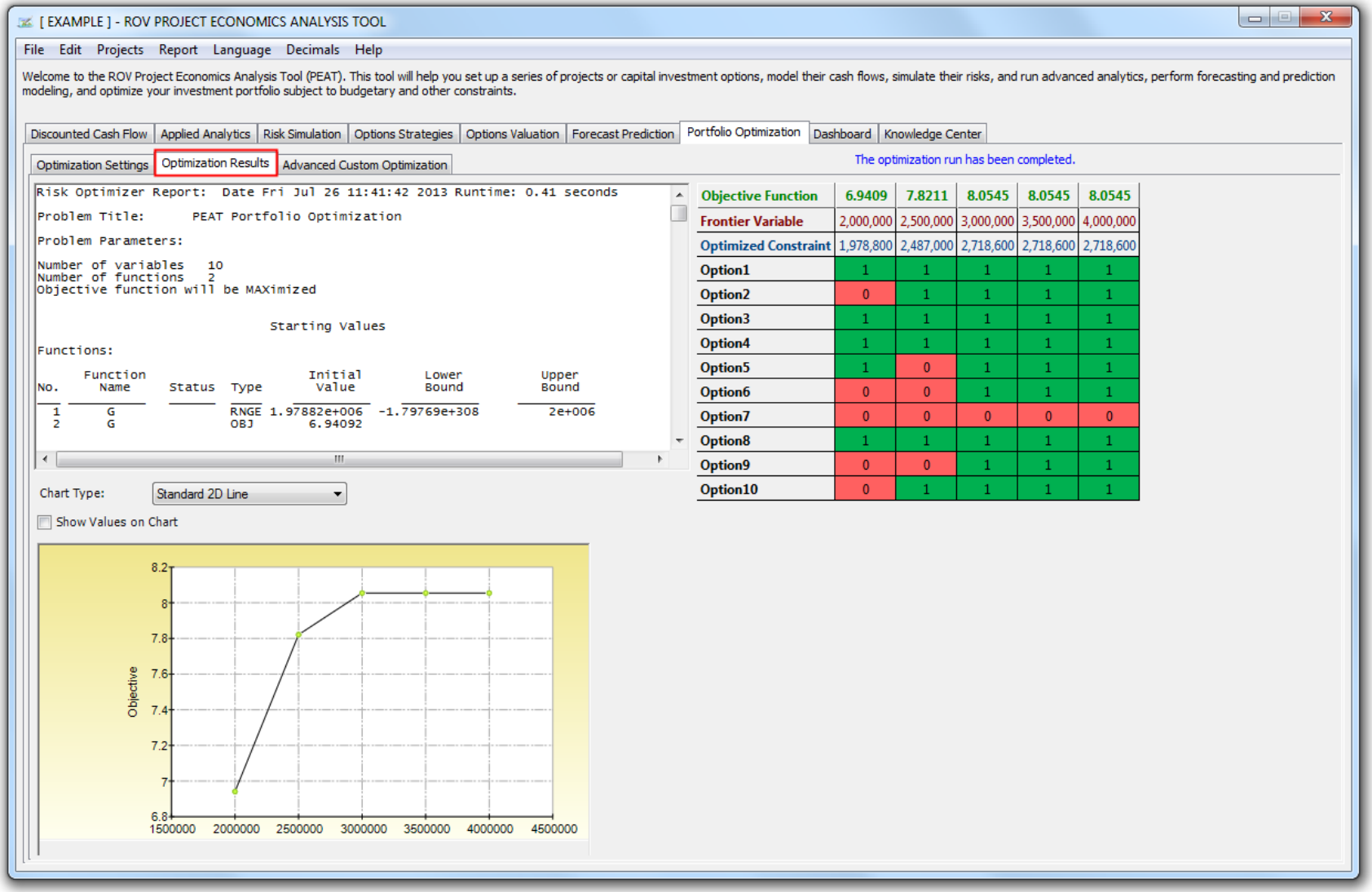
Go to “Portfolio Optimization | Optimization Settings” and double click on a saved model to run



Double click on any saved model to run it or create your own portfolio optimization models here. You have to first set up the model’s Decision Variables, Objective, and Constraints. You can set variable constraints with a range to run an investment efficient frontier analysis.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Go to “Portfolio Optimization | Optimization Results”

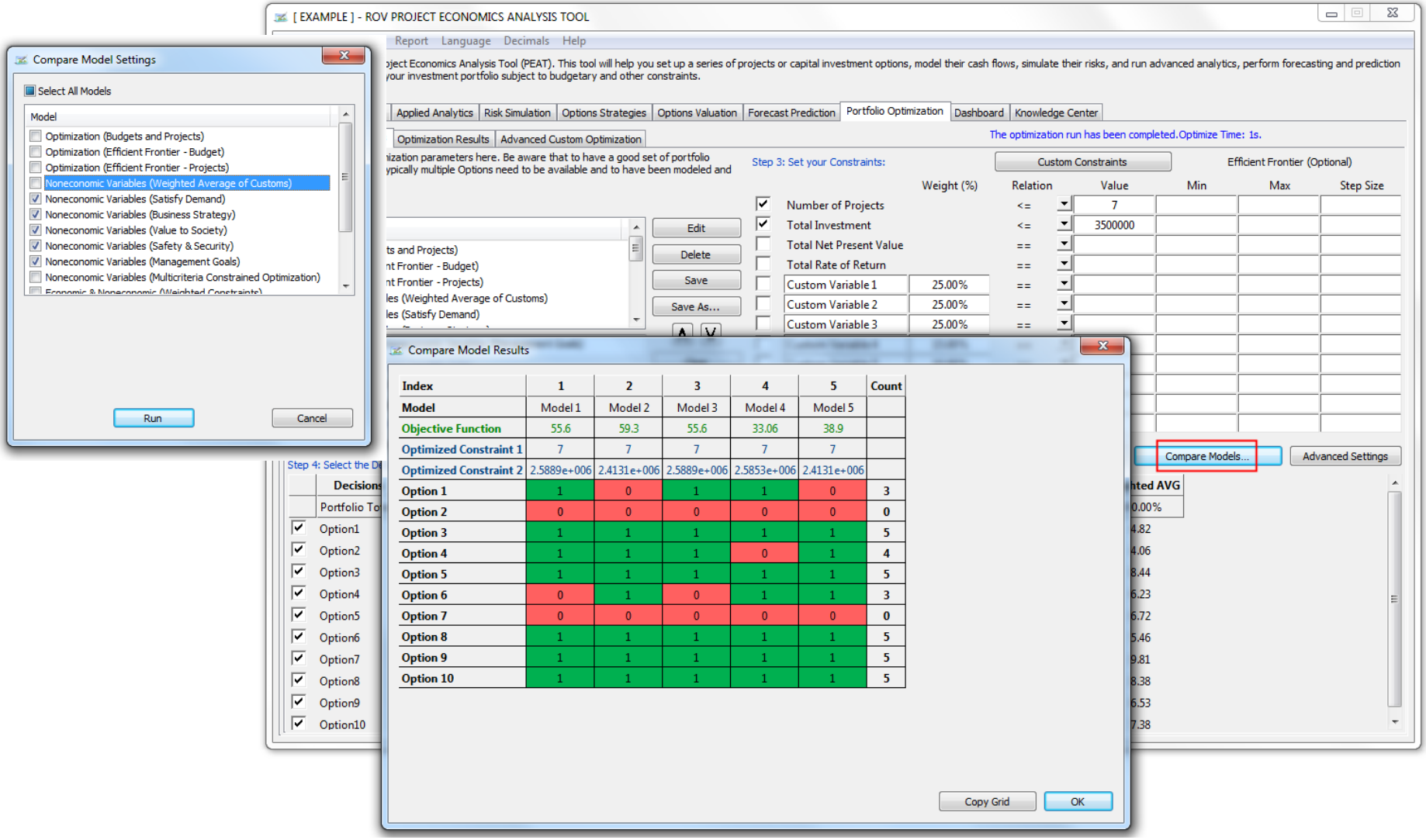


Objective Function	6.9409	7.8211	8.0545	8.0545	8.0545
Frontier Variable	2,000,000	2,500,000	3,000,000	3,500,000	4,000,000
Optimized Constraint	1,978,800	2,487,000	2,718,600	2,718,600	2,718,600
Option1	1	1	1	1	1
Option2	0	1	1	1	1
Option3	1	1	1	1	1
Option4	1	1	1	1	1
Option5	1	0	1	1	1
Option6	0	0	1	1	1
Option7	0	0	0	0	0
Option8	1	1	1	1	1
Option9	0	0	1	1	1
Option10	0	1	1	1	1

Double clicking on any saved optimization model in the previous Optimization Settings tab will run the optimization model and automatically bring you to this results tab.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

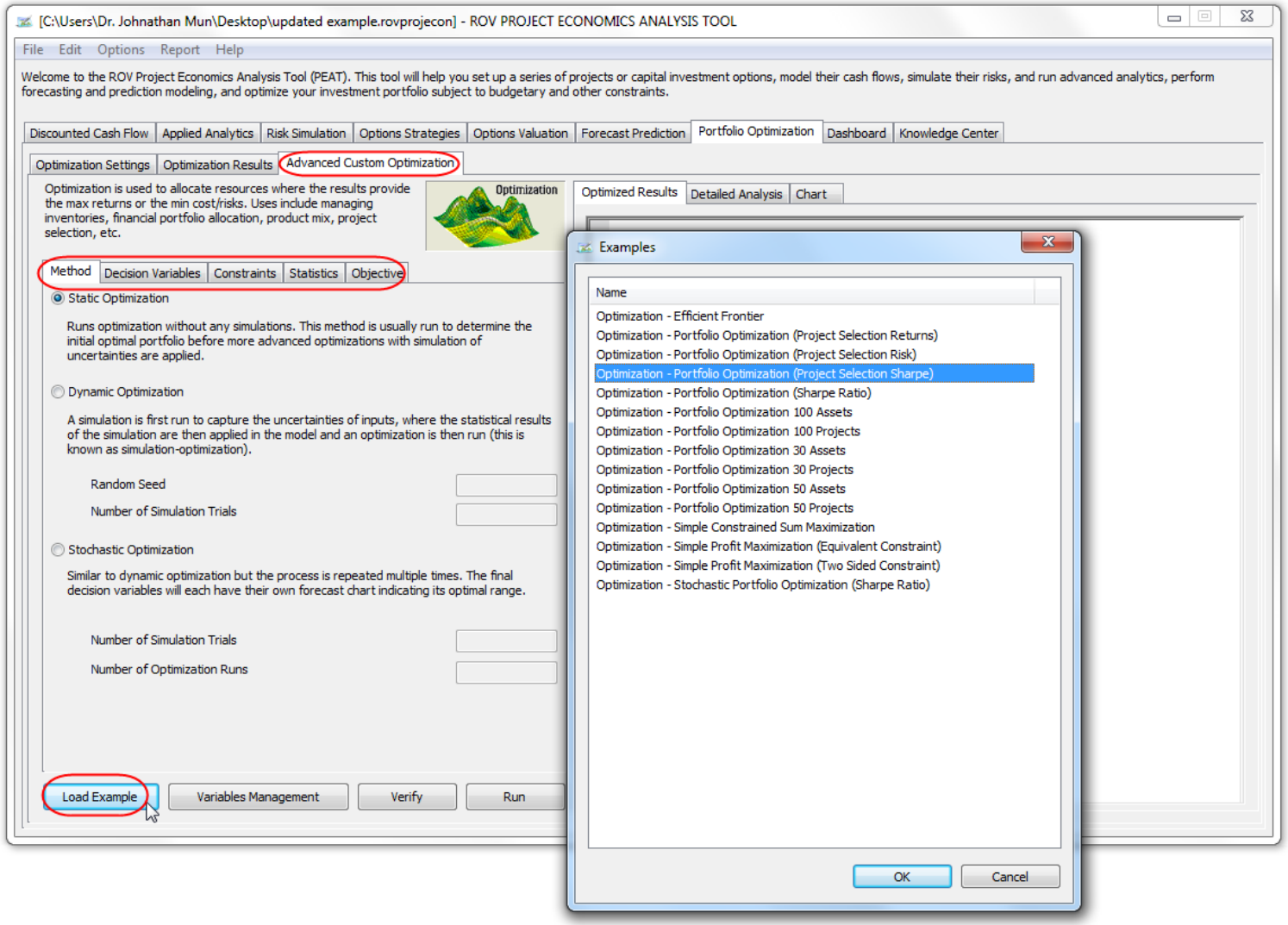
Go to “Portfolio Optimization | Optimization Settings” and click Compare Models, then select the five Noneconomic Variables to run and compare…



All selected models will run and you can see the results “sliced-and-diced” in various points of view, and the results will be returned as an optimized matrix of decisions…

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

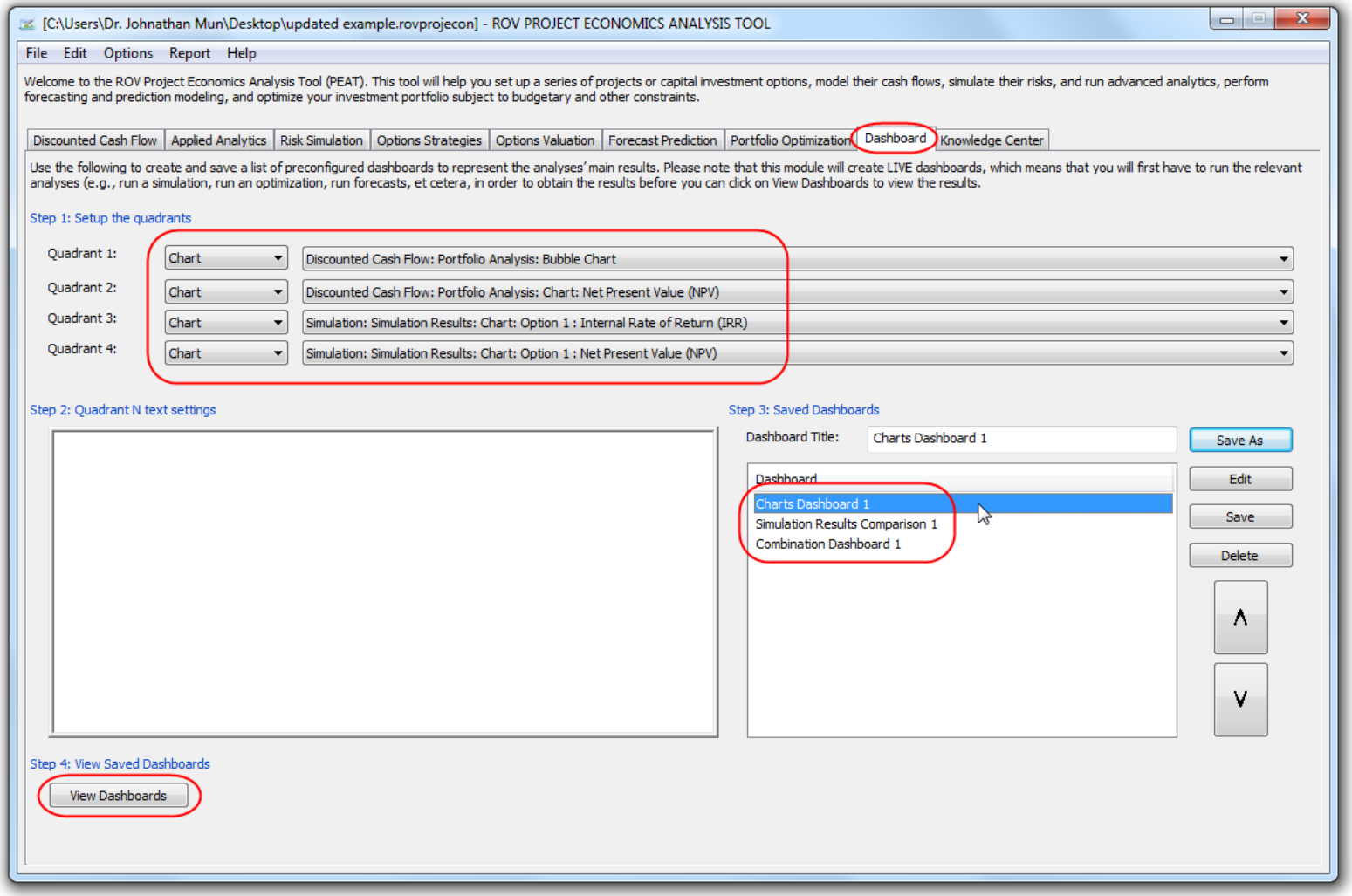
Go to “Portfolio Optimization | Advanced Custom Optimization”



You can “create, save, and run your own optimization models” in this tab or run some previously saved example models. You have to first set up the model’s Decision Variables using the Variables Management tool, then set the Objective and Constraints. You can set variable constraints with a range to run an investment efficient frontier analysis.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

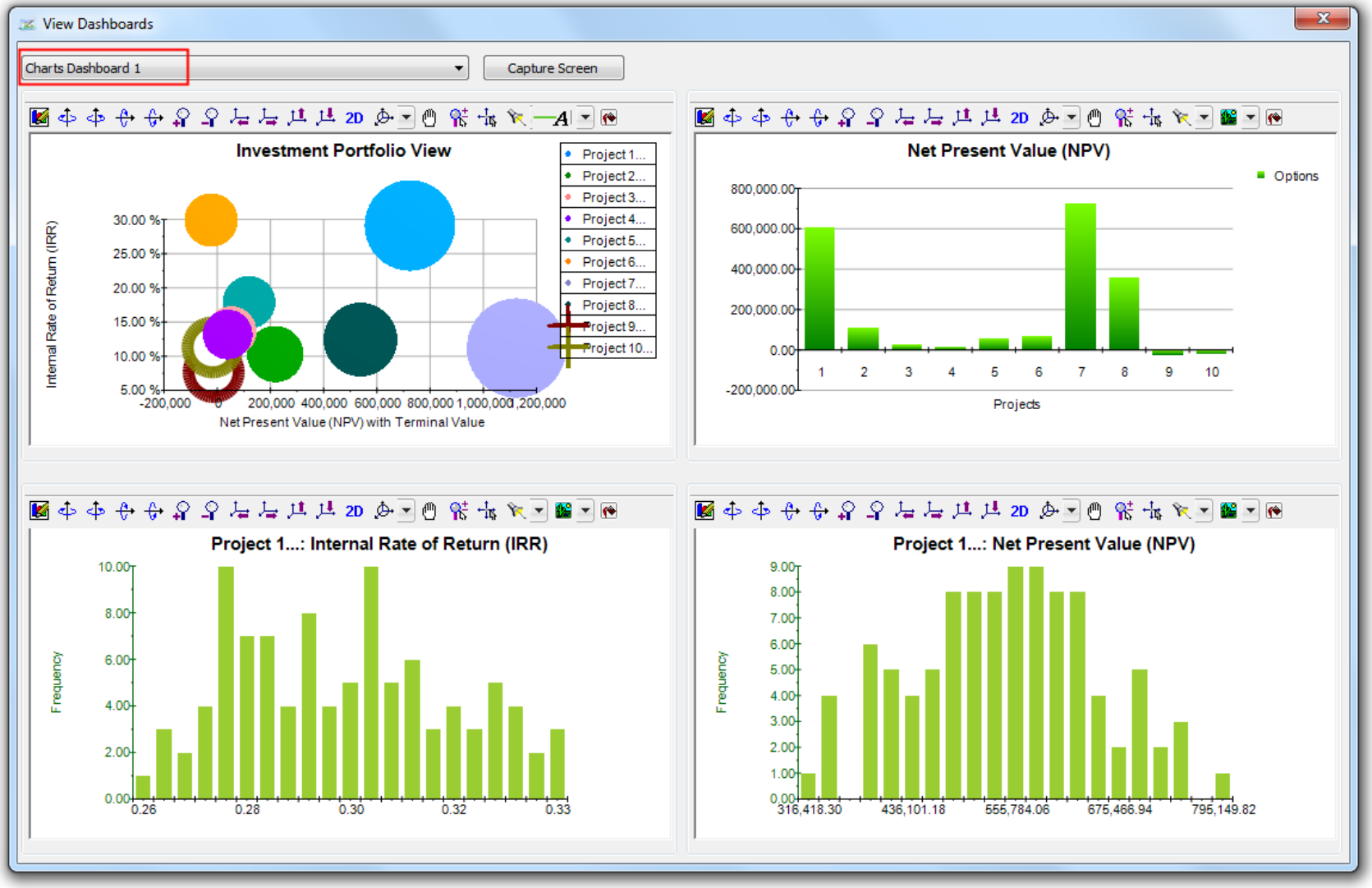
Go to “Dashboard” to review the settings and click “View Dashboards” when done



You can create and save multiple management dashboards here. Each dashboard can have four quadrants with any combinations of charts, results data grid, forecast or optimization results, or custom text. Please be aware that you must first run at least one RISK SIMULATION, OPTIMIZATION, and FORECAST model each before the dashboard will show any data/results. If you do not run anything, there will be no results to show!

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

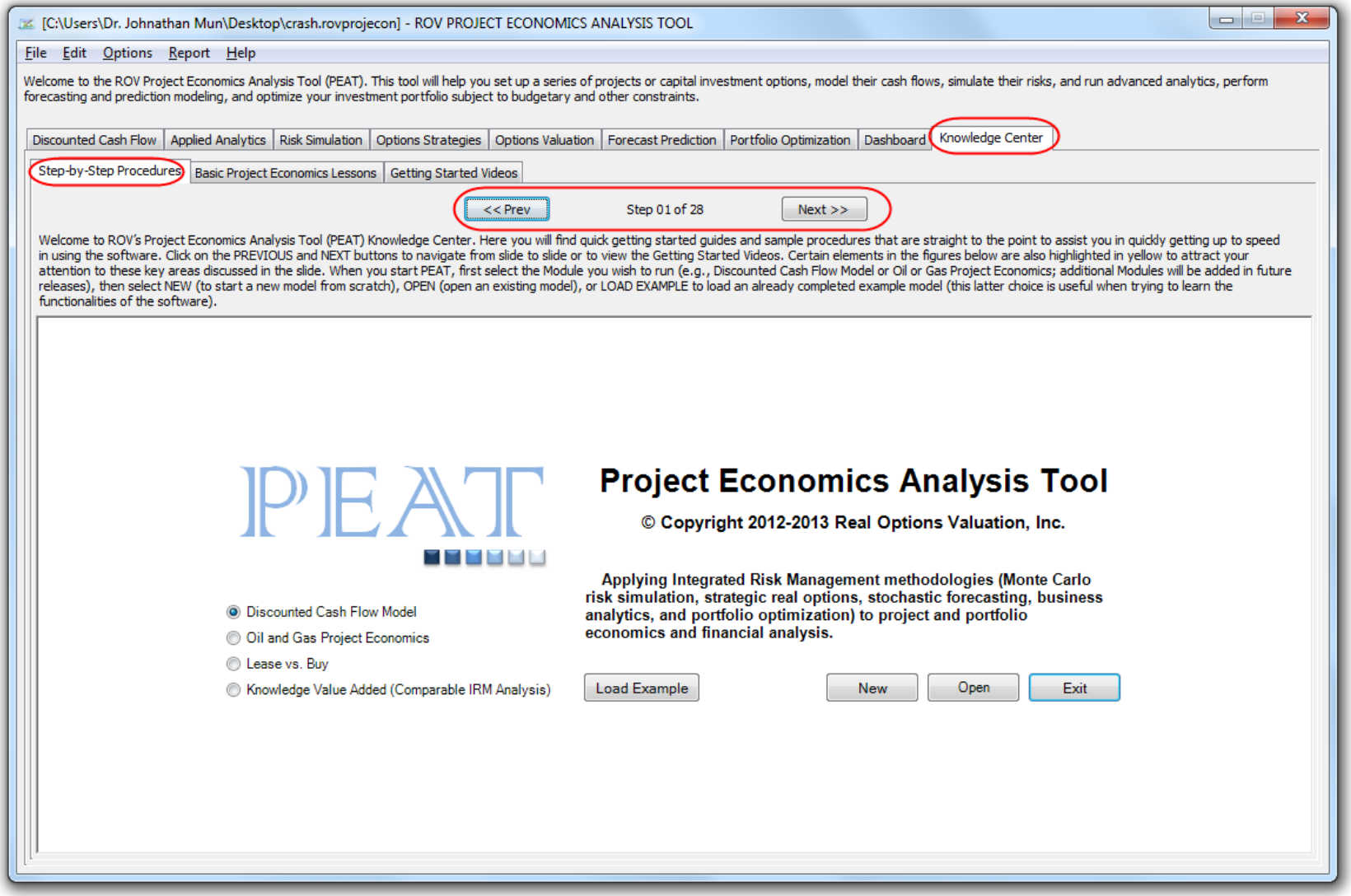
In the “View Dashboards” mode, select any one of the saved dashboards from the droplist



You can retrieve any of the saved dashboards and these dashboards will be populated only if the appropriate models have been run…

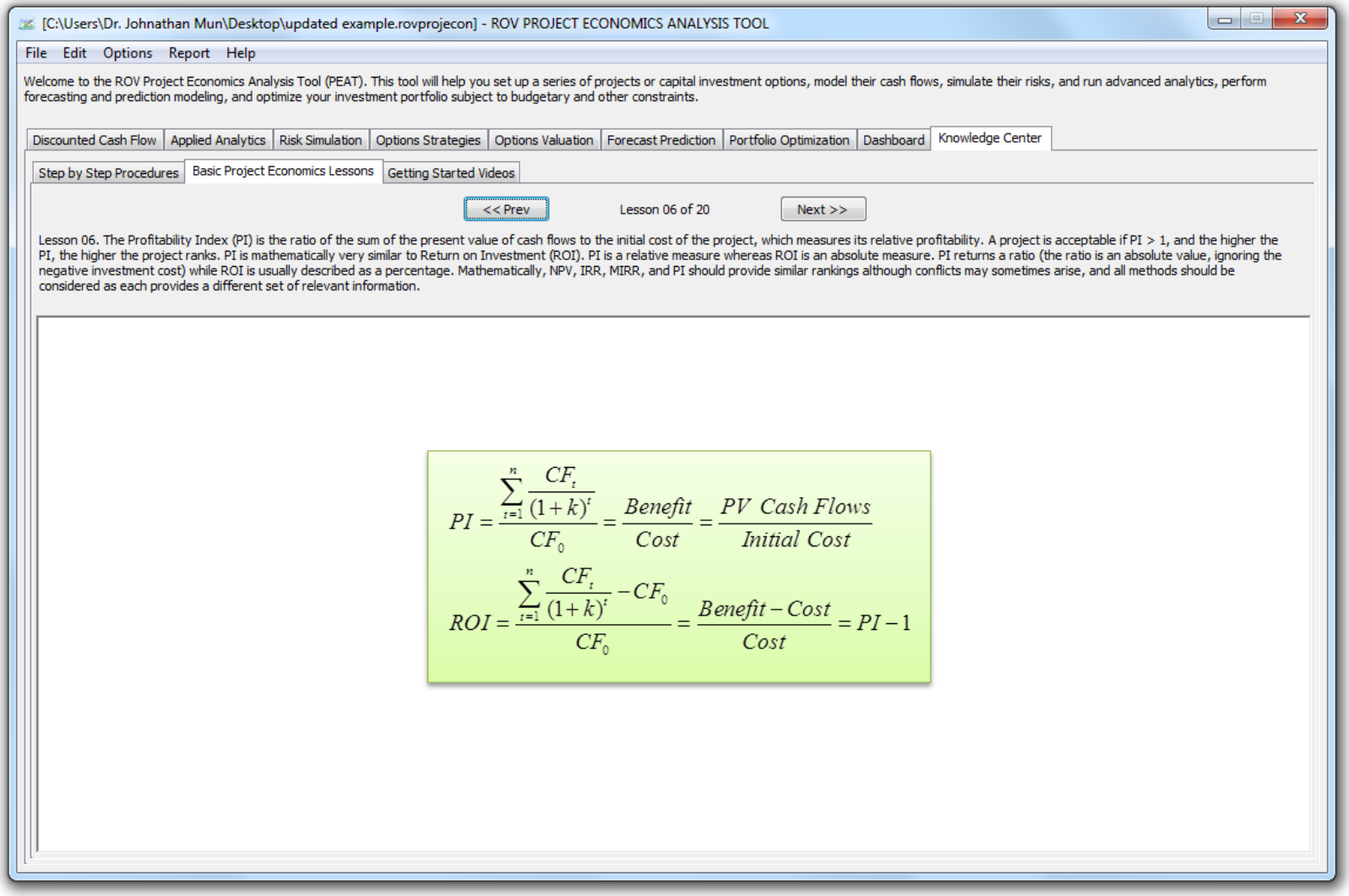
Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Go to “Knowledge Center | Step-by-Step Procedures” and step through the training material



You can also learn the basics of PEAT through the knowledge center’s procedures illustrations. Step back and forth from slide to slide while reviewing the text. You can create your own custom training materials for your staff and company’s personnel, if you wish, by following some simple instructions in the user manual.

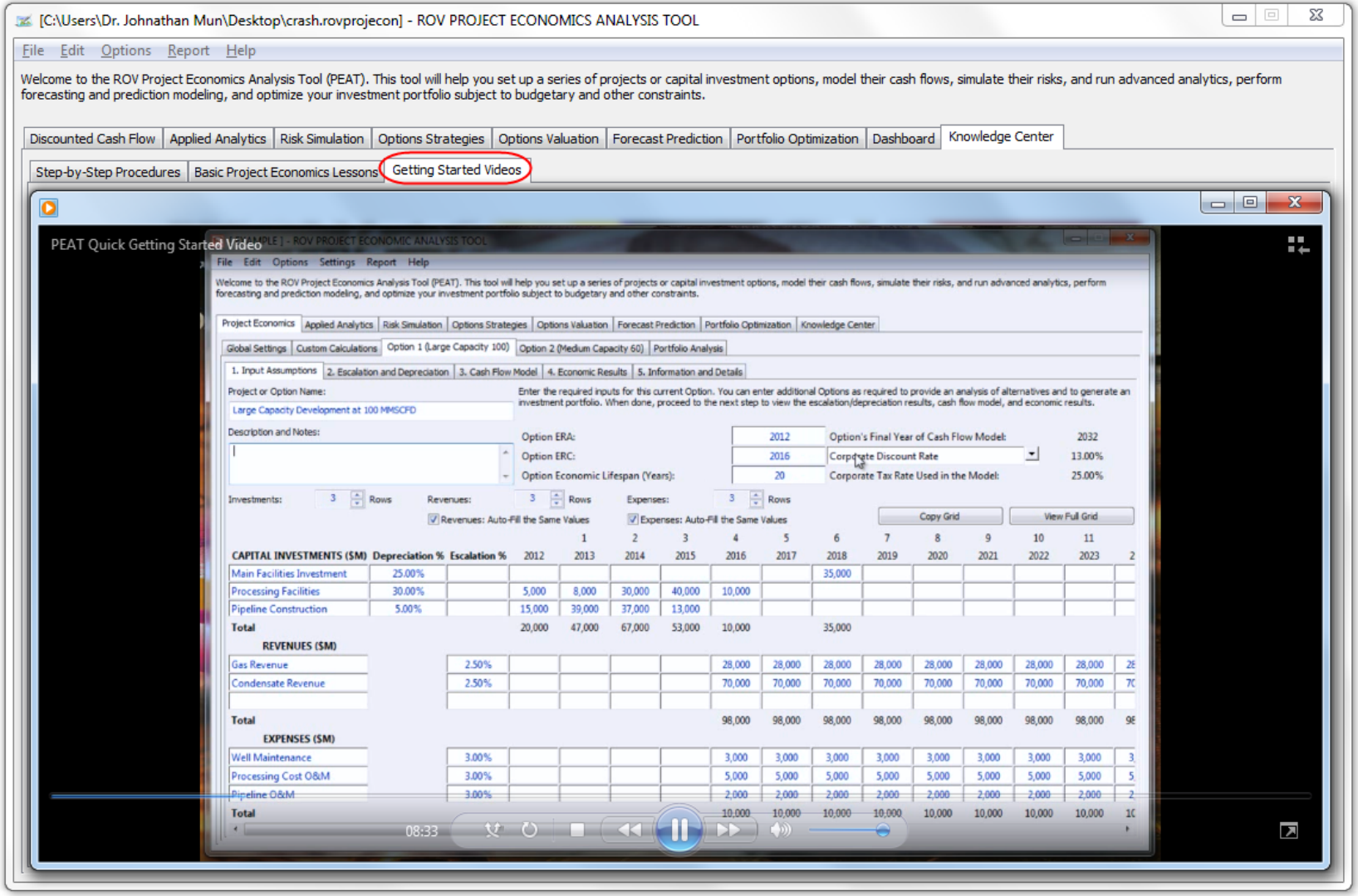
Go to “Knowledge Center | Basic Project Economics Lessons”



You can also learn the basics of the project economics and financial analytics that PEAT uses through the knowledge center’s basic project economics lessons. Step back and forth as usual. You can also create your own custom training materials for your staff and company’s personnel for this subtab.

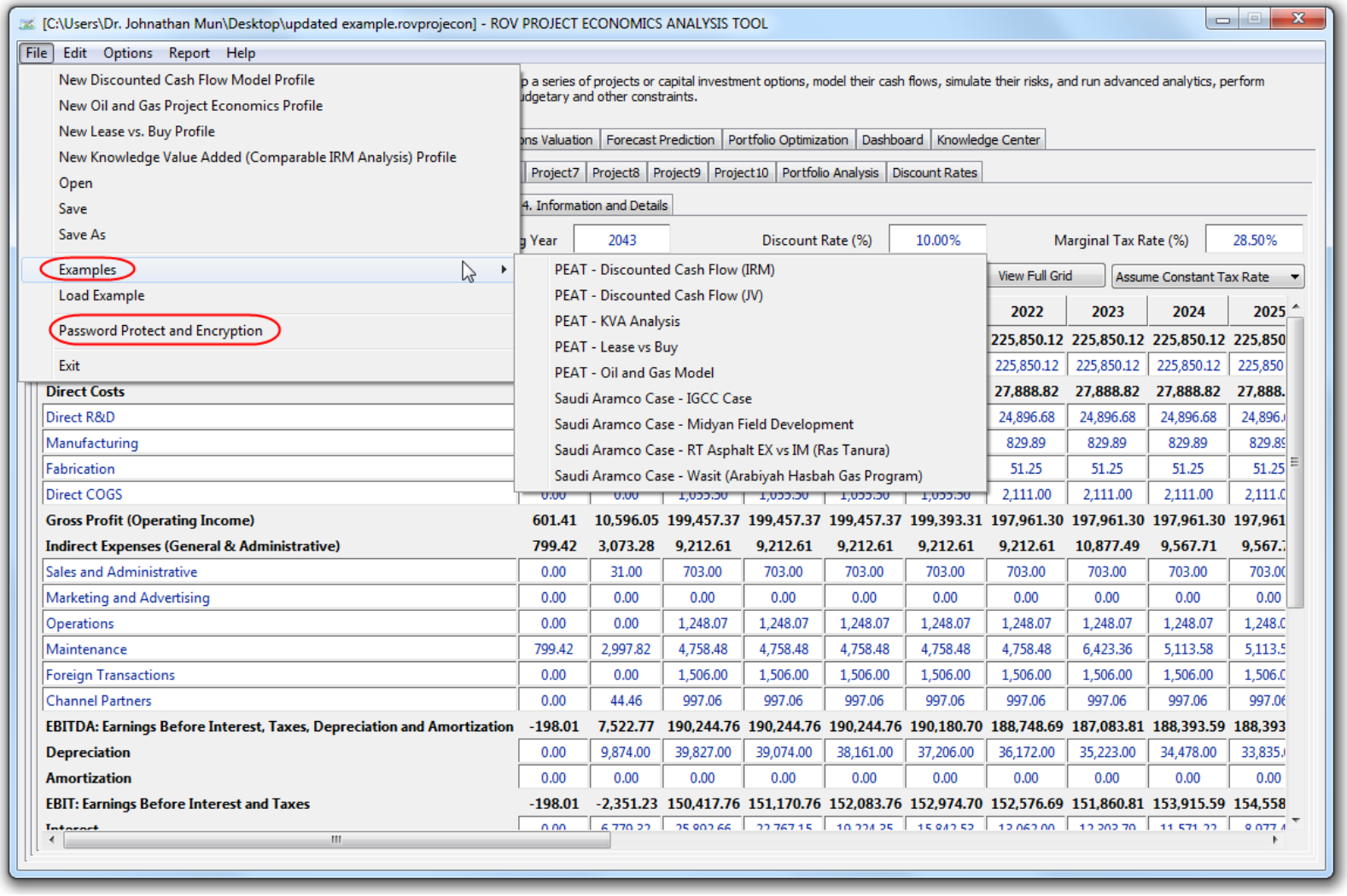
Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Go to “Knowledge Center | Getting Started Videos” and click on the video icon to start watching



Some basic videos are also available as part of the PEAT tool to get you up to speed quickly on using the software application. Again, you can create and embed your own corporate training videos if required.

Click on the menus and explore…



Do not forget to click on some of the menus to explore additional settings that are available such as performing data and model encryption, load example files, start new or open existing models, change international settings (foreign languages and decimal settings), as well as add/delete/rename/duplicate/rearrange Projects and Options.

Dublin, California. admin@realoptionsvaluation.com
REAL OPTIONS VALUATION, Inc. www.realoptionsvaluation.com

Click on the “Report | Report Settings” menu

After completing and running your models (i.e., having completed and run any or all of the appropriate tabs: project economics, advanced analytics, risk simulations, forecasting, real options, and optimization), you can generate a report in Excel. A quick hint here is that once you click “Run Report” please make sure to be “hands-off” the computer until the report is complete.