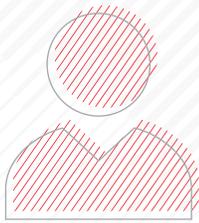
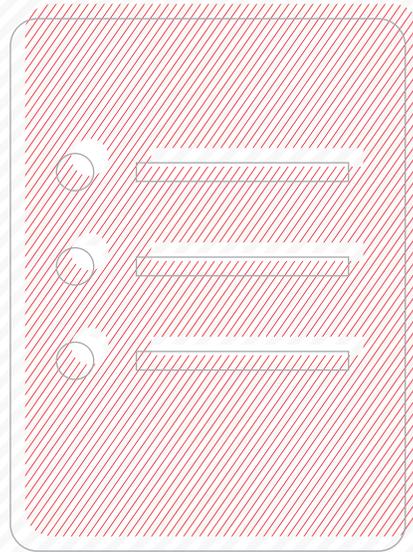
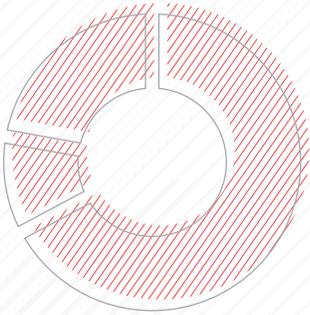
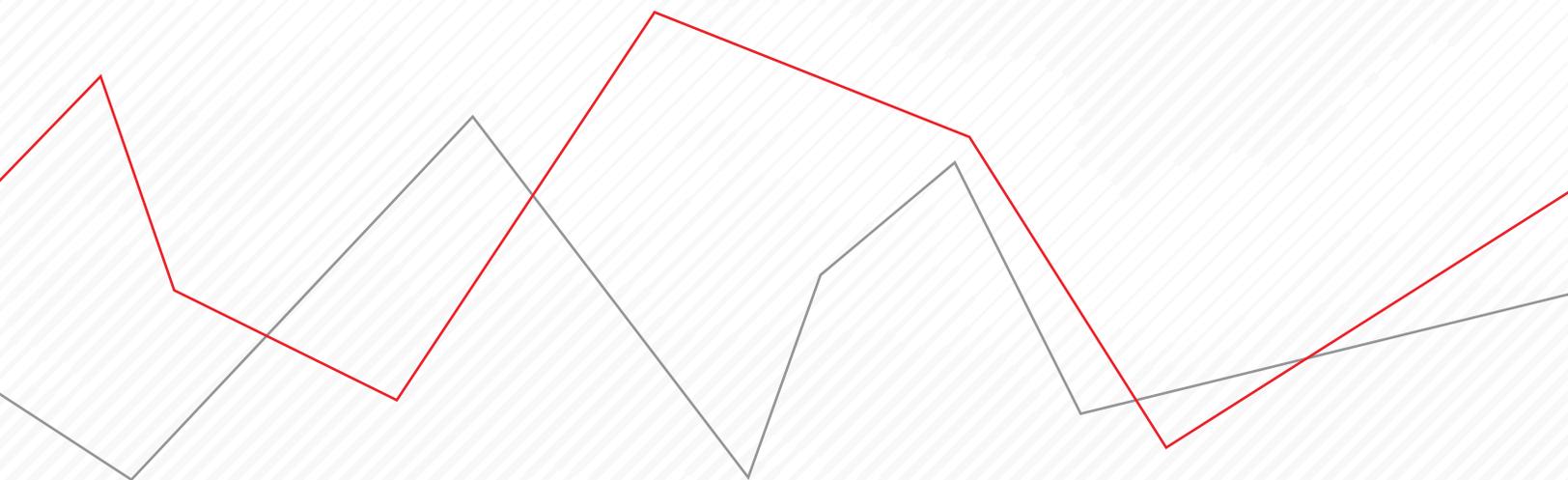


Working with the Scenario Analysis Tab

Morningstar Office Cloud



MORNINGSTAR Office



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Contents

Overview	4
Understanding Morningstar Risk Model.	5
Overview	5
What is a Risk Model?	5
Understanding the Scenario Analysis Tab.	7
Overview	7
What scenarios are shown on the Scenario Analysis tab?	7
Using Scenario Analysis with Investments.	12
Exercise 1: Screen for large-cap equity funds	12
Exercise 2: Display just one scenario at a time	16
Exercise 3: Apply a benchmark to the Scenario Trends chart	18
Exercise 4: Add a fund for comparison	19
Exercise 5: Convert the chart to a table	20
Exercise 6: Find the drawdown for a fund during a scenario	21
Exercise 7: Find the day the maximum drawdown would be reached in a scenario ...	26
Exercise 8: View scenarios from more than one group at a time.	27
Using Scenario Analysis with Client Accounts and Model Portfolios	29
Overview	29
Exercise 9: Create a conservative model	29
Exercise 10: Display one scenario for the Roop family.	31
Exercise 11: Add the Conservative Model to the Scenario Trends chart.	33
Exercise 12: Add an index using the comparison feature	34
How do I analyze the underlying holdings within accounts and models?	35

Working with the Scenario Analysis Tab

The Scenario Analysis tab shows how one or more funds would perform if conditions from a past market or macroeconomic event were to recur. Scenarios are calculated using Morningstar Risk Models.

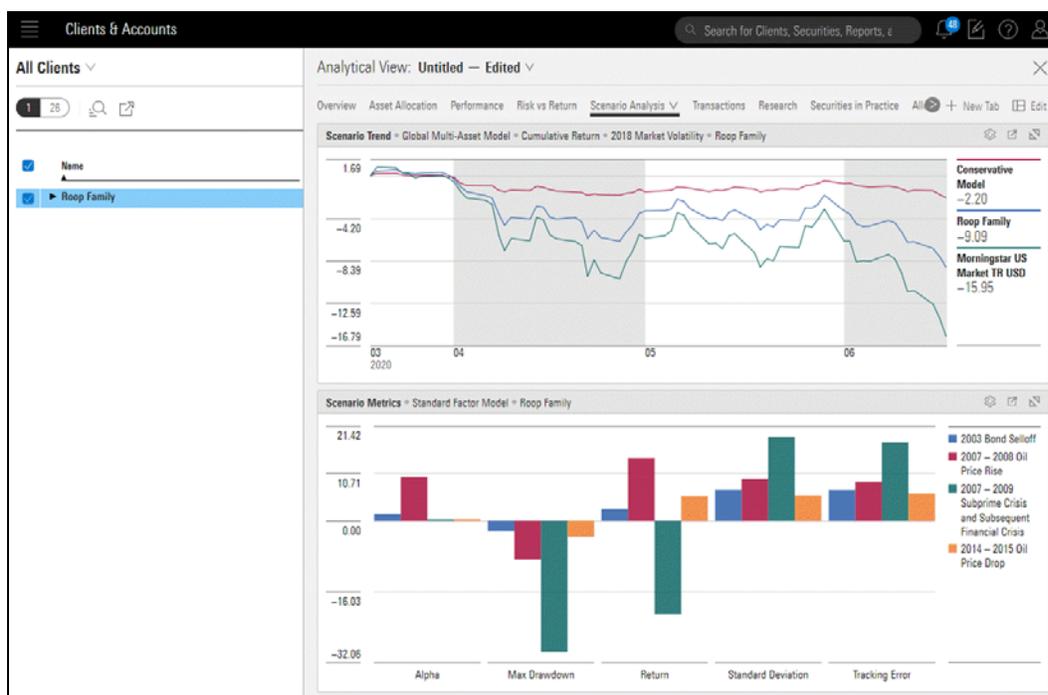
Overview

This tab is available in the following product areas:

- ▶ Investment research
- ▶ Clients & Accounts
- ▶ Prospects
- ▶ Models

This manual covers the following topics:

- ▶ [Understanding Morningstar Risk Model \(page 5\)](#)
- ▶ [Understanding the Scenario Analysis Tab \(page 7\)](#)
- ▶ [Using Scenario Analysis with Investments \(page 12\)](#)
- ▶ [Using Scenario Analysis with Client Accounts and Model Portfolios \(page 29\)](#)



Understanding Morningstar Risk Model

The Scenario Analysis tool offers access to the Standard Factor Risk Model and the Global Multi-Asset Risk Model. You can see graphical representations of risk factor exposure or view this information in a chart.

A risk model is a forecast of the joint distribution of returns for a set of assets. Using the Morningstar Risk Models, you can do the following:

- ▶ Make more informed account construction decisions, and
- ▶ Understand future return behavior.
- ▶ Understand the impact of adding or subtracting a particular security.

Select an appropriate Risk Model to power the Scenario Analysis charts. The table below describes what each Risk Model is comprised of.

Overview

What is a Risk Model?

This Risk Model	Provides this information
Standard Factor	<p>The Standard Factor risk model features seven investment factors generally accepted in the financial industry as important drivers of return and risk. It excludes factors proprietary to Morningstar. The following factors are included are:</p> <ul style="list-style-type: none"> ▶ Style ▶ Yield ▶ Momentum ▶ Quality ▶ Volatility ▶ Liquidity, and ▶ Size. <p>Note: Click here to read the methodology paper on the Standard Factor risk model.</p>
Global Multi-Asset	<p>The Global Multi-Asset Risk Model includes the 36 risk factors from the Global Equity Risk Model, as well as 12 yield curve factors. To qualify for analysis with the Global Multi-Asset Risk Model, a fund or portfolio must meet the following requirements:</p> <ul style="list-style-type: none"> ▶ Cannot be a fund-of-funds ▶ Must have a portfolio report date within the last six months ▶ Market capitalization > USD 1 million ▶ Liquidity > USD 10,000 ▶ Region-size rank ≤ 500 ▶ Sector-size rank ≤ 250 ▶ Sector-region-size rank ≤ 50 ▶ Sector-country-size rank ≤ 10, and ▶ United States-size rank ≤ 2,000. <p>☞ Note: ADRs are not eligible.</p> <p>At this time, the following investments are covered by the Multi-Asset Risk Model:</p> <ul style="list-style-type: none"> ▶ noncallable corporate, and ▶ muni bonds denominated in four major currencies (USD, EUR, GBP, CHF). ▶ Note that the following bond types are excluded from coverage: ▶ those denominated in currencies other than USD, EUR, GBP, and CHF ▶ callable bonds ▶ mortgage-backed securities, and ▶ interest derivatives. <p>☞ Note: Click here to read the methodology paper on Morningstar Global Multi-Asset Risk Model.</p>

Understanding the Scenario Analysis Tab

The Scenario Analysis tab shows how funds or portfolios would perform if conditions from a past market or macroeconomic event were to recur. For example, in mid-2011, the U.S. Congress and the President faced off in a showdown over whether to increase the debt ceiling to continue borrowing to fund the government. The issue was resolved four months later, but the intervening dispute took a toll on equity and fixed income investments alike.

What would happen if the same risk premia were applied to a portfolio today, given its exposure to the 36 factors in the Morningstar Global Risk Model?

This tab also contains scenarios that include Macro-Financial or Market-Driven shocks to funds and portfolios.

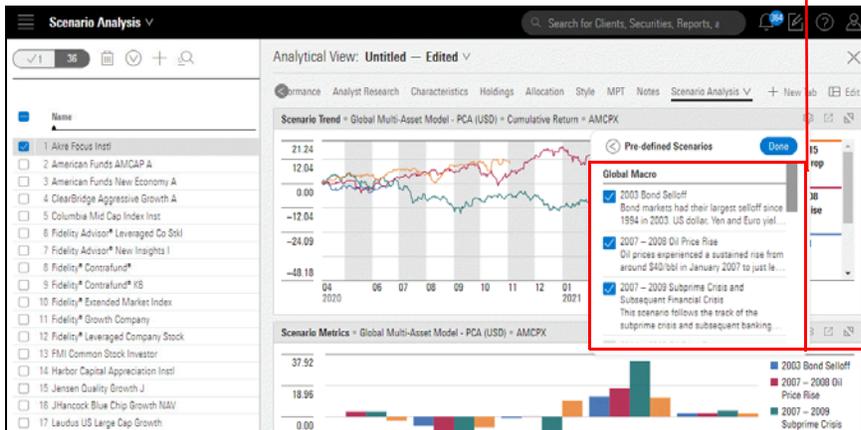
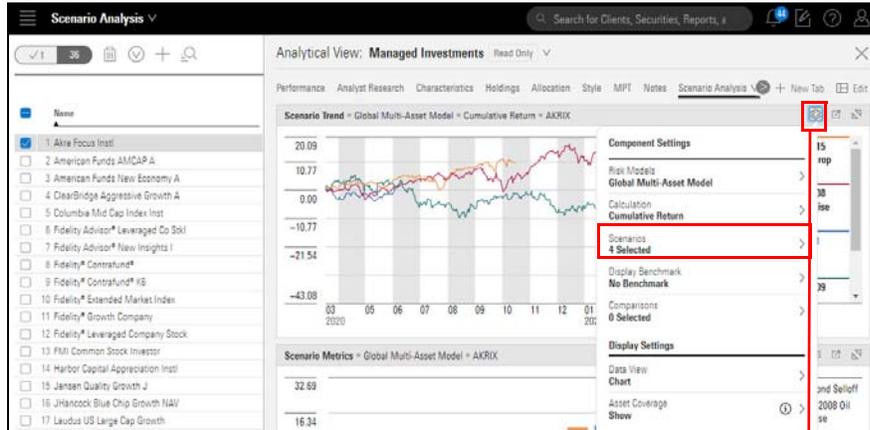
The Scenario Analysis tab shows four pre-defined scenarios by default, but several others are also available. These scenarios are grouped into the following three groups:

Scenario Group	Definition
Pre-defined	Morningstar's pre-defined scenario use a fund's exposure to the 36 factors in the Morningstar Global Risk Model. In concert with the fund's constituents, the factors calculate the probable impact of past market events on a fund, should they re-occur in the future.
Macro-Financial	Morningstar's Macro-Financial Scenario Analysis tool calculates the impact of macroeconomic and financial system shocks on forecast factor exposures and volatilities.
Market-Driven	The Market-Driven Scenario Analysis tool uses a market index to determine the impact of market shocks on factor exposures, portfolio returns, Value at Risk, or VaR, and Conditional Value at Risk, or CVaR.

Overview

What scenarios are shown on the Scenario Analysis tab?

The following three tables describe the available scenarios, but you can also see the description of each scenario within each of the three scenario group submenus.



Start by selecting this menu.

Pre-defined Scenarios

Group Name	Scenario Name	Scenario Description
Global Macro	2003 Bond Selloff	In 2003, from June 12 to August 31, bond markets saw their largest sell-off since 1994. The U.S. dollar, Yen, and Euro yields all increased sharply. Ten-year U.S. Treasury yields increased from 3.11% on June 13 to over 4.40%, Japanese government bond yields rose 50 basis points, and bunds rose 70 basis points. Yields continued to rise at longer maturities until late August in Japan. Little direct impact was seen on equity markets during this time period, and the relative price of financial institutions did not move substantially as compared to the rest of the equity market.
	2007–2008 Oil Price Rise	From January 18, 2007 to June 2, 2008, oil prices experienced a sustained rise from around \$40/bbl to just less than \$150/bbl on July 15, 2008. This rise coincided with substantial falls in global equity markets.
	2007–2009 Subprime Crisis and subsequent Financial Crisis	This scenario follows the track of the subprime crisis and subsequent banking crisis and recession (October 2007–February 2009). In October 2007, Ben Bernanke delivered a speech suggesting that the banking system was healthy, but that the ultimate implications for financial markets were uncertain. Over the next year, approximately a million houses entered foreclosure. Credit markets froze through the successive bank failures worldwide. The S&P 500 fell 57% over this time period.
	2014–2015 Oil Price Drop	From June 2014 to January 15, 2015, the price of oil fell from around \$115/bbl to below \$70/bbl, after around five years of reasonably stable prices. Equity markets rose during this time.
US Focus	2006 Amaranth Hedge Fund Collapse	On September 18, 2006, the founder of the Amaranth Advisors hedge fund advised investors that the fund had lost 50% of their assets in the month-to-date, and a total of \$6.6bn losses by the end of September. The fund essentially had a large losing bet on North American natural gas prices. Ultimately the collapse did not cause substantial systematic distress in financial markets as counterparties quickly stepped in to stabilize the natural gas market.
	2011 Debt Ceiling	The US Public Debt Acts impose a limit on the total borrowings of the U.S. government. In May 2011, the U.S. Congress delayed raising the debt ceiling for a time, which caused some speculation around the possibility of a default on the U.S. debt. The U.S. suffered its first credit rating downgrade from S&P on August 5, 2011, and both Moody's and Fitch moved to a negative outlook. The downgrade was associated with substantial falls in world equity market prices. But bond prices rose, and yields on 10-year Treasuries moved from 2.56% to 2.34% by the time the ceiling was raised at the end of September 2011.

Group Name	Scenario Name	Scenario Description
Emerging Markets	2004 Emerging Market Crisis	In May 2004, a substantial increase in U.S. Treasury long-term yields appeared to drive substantial increases in emerging market spreads, especially for the most risky credits. This caused large falls in many emerging market equity markets over a two-week period.
	2006 Emerging Market Selloff	In May and June 2006, emerging market equities suffered their worst decline since the 1998 Russian debt crisis. This correction occurred after strong increases in those markets in the earlier part of the year. Developed markets were less affected. The Nikkei-225 fell approximately 15%, the Eurofirst-300 just over 9%, and the S&P 500 by 6%.
European Markets	2010 Greek Crisis	In April 2010, after a series of scandals that revealed that Greek government debt statistics were unreliable, all major credit rating agencies downgraded Greek government debt to junk. On May 2, 2010, the IMF, European Commission, and European Central Bank provided an EUR 110B loan to cover repayments of Greek government debt, contingent on the implementation of austerity measures to reduce public spending and increase tax revenue. The measures triggered a general strike in Greece on May 5 and ongoing political instability. The outstanding Greek government debt was largely held by Greek and other European banks, and the crisis provoked a sell-off in European financial sector equities.

Note: Click [here](#) to learn how Predefined Scenarios are calculated.

Macro-Financial Scenarios

Scenario Name	Scenario Description
Oil Price Increases	WTI Oil Price increases by 20% over 10 months.
US GDP Decline	Real Gross Domestic Product decreases 4% over 9 months.
US/China Tradewar	US Economic Policy Uncertainty Index increases 75% over 3 months.
Robot Apocalypse	3 variables are shocked over 6 months: Total Unemployed by 17.5%, Corporate Profits After Tax by 12.5%, and Industrial Production Index by 4.2%
Volatility Shock	Shocks Volatility Index by 100% the first month, 0% the second month, and 75% the third month.
US Interest Rate Hike	Effective Fed Funds Rate increases 35% over 5 months..
10-year and 30-year USD Treasury up 100 bps next year	10yr Treasury Yield and 30yr Treasury Yield increase 100 basis points over 12 months
2-year USD Treasury up 25 bps next month	2yr Treasury Yield increases 25 basis points next month
2-year 10-year and 30-year USD Treasury up 25 bps next month	2yr Treasury Yield, 10yr Treasury Yield, and 30yr Treasury Yield increase 25 basis points next month

Scenario Name	Scenario Description
10-year and 30-year USD Treasury up 25 bps next month	10yr Treasury Yield and 30yr Treasury Yield increase 25 basis points next month
2-year USD Treasury up 100 bps next year	2yr Treasury Yield increases 100 basis points over 12 months
2-year and 10-year USD Treasury up 100 bps next year	2yr Treasury Yield and 10yr Treasury Yield increase 100 basis points over 12 months
2-year 10-year and 30-year USD Treasury up 100 bps next year	2yr Treasury Yield, 10yr Treasury Yield, and 30yr Treasury Yield increase 100 basis points over 12 months
10-year USD Treasury up 100 bps next year	10yr Treasury Yield increases 100 basis points over 12 months
30-year USD Treasury up 25 bps next month	30yr Treasury Yield increases 25 basis points next month
30-year USD Treasury up 100 bps next year	30yr Treasury Yield increases 100 basis points over 12 months
10-year USD Treasury up 25 bps next month	10yr Treasury Yield increases 25 basis points next month
2-year and 10-year USD Treasury up 25 bps next month	2yr Treasury Yield and 10yr Treasury Yield increase 25 basis points next month
Novel Coronavirus Outbreak	3 variables are shocked over 4 months: WTI Oil Price by -40%, 10yr Treasury Yield by -75%, and Gold by 25%

Note: Click [here](#) to learn how Macro-Financial scenarios are calculated. In Morningstar Office Cloud, only Morningstar defined Macro-Financial scenarios are available. User-defined scenarios are not available.

Market-Driven Scenarios

Scenario Name	Scenario Description
S&P 500 up 10%	S&P 500 PR (SPX) increases 10% over 16 weeks.
S&P 500 up 20%	S&P 500 PR (SPX) increases 20% over 26 weeks
S&P 500 down 10%	S&P 500 PR (SPX) declines 10% over 16 weeks
S&P 500 down 20%	S&P 500 PR (SPX) declines 20% over 26 weeks
ESG Impact Increases	ESG Impact ETF (ESG) increases 20% over 52 weeks.

Note: Click [here](#) to learn how Market-Driven scenarios are calculated. In Morningstar Office Cloud, only Morningstar defined Market-Driven scenarios are available. User-defined scenarios are not available.

Using Scenario Analysis with Investments

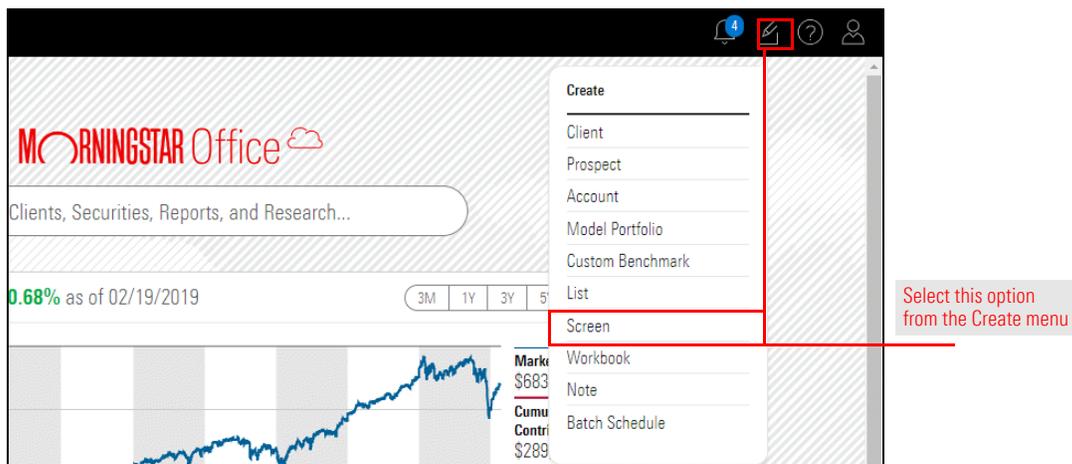
Start by creating a screen for equity funds to be analyzed. In this exercise, the focus will be on large-cap open-end funds meeting the following criteria:

- ▶ must be a member of the US Fund Large Blend, US Fund Large Growth, or US Fund Large Value Morningstar Category
- ▶ must have at least three years of history
- ▶ must be an equity fund, and
- ▶ only a single share class (namely, the oldest) of each fund will be shown.

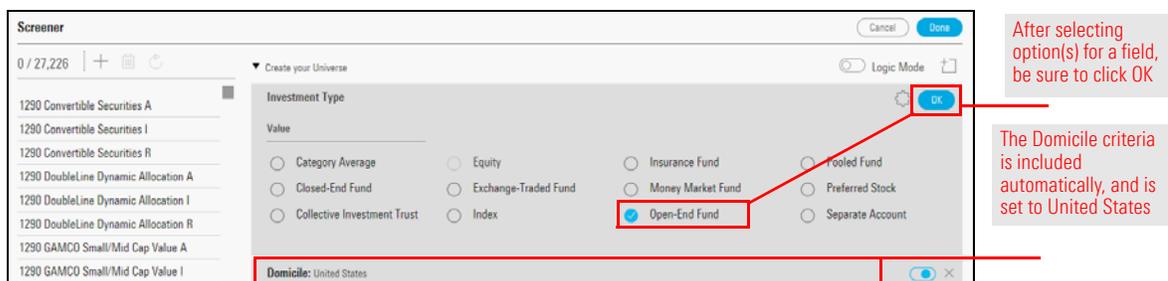
In this exercise, the first step is to create a screen. This screen populates within the Managed Investments Analytical View, which contains a pre-built Scenario Analysis tab.

To create this screen, do the following:

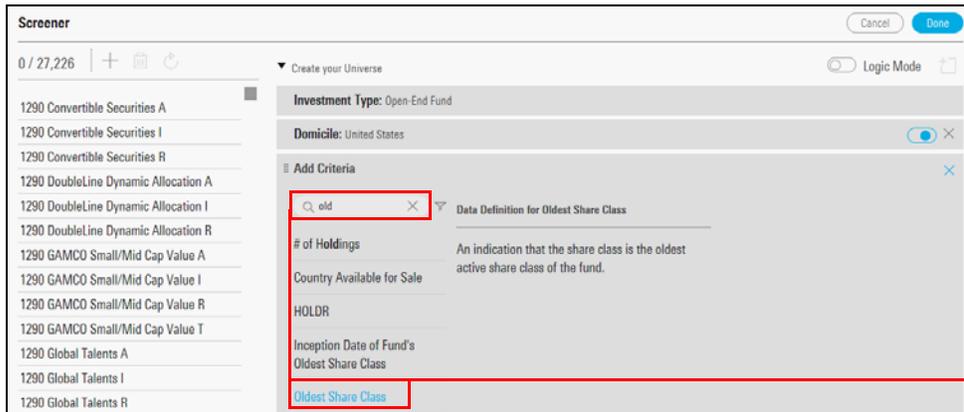
1. On the header, click the **Create** icon, then select **Screen**. The Screener window opens.



2. In the Investment Type area, click **Open-End Fund**, then click **OK**. The Add Criteria area for the next element to screen on opens.

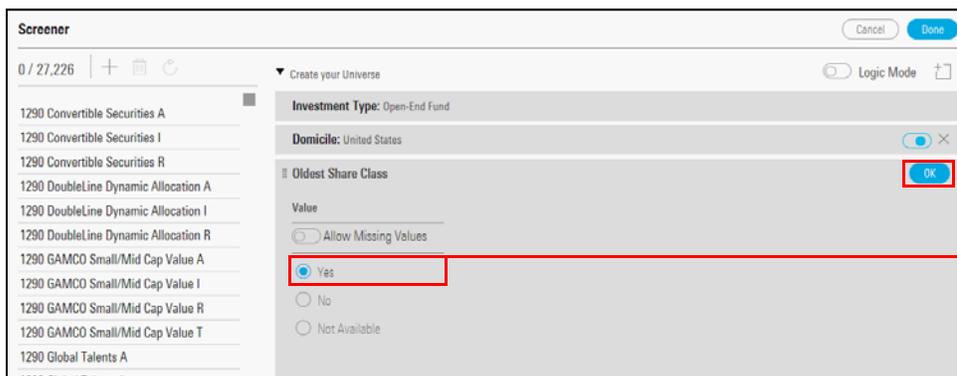


- To find a single instance of each fund, in the **Search for data points** field, type **old**. Select **Oldest Share Class**. Some additional fields now appear.



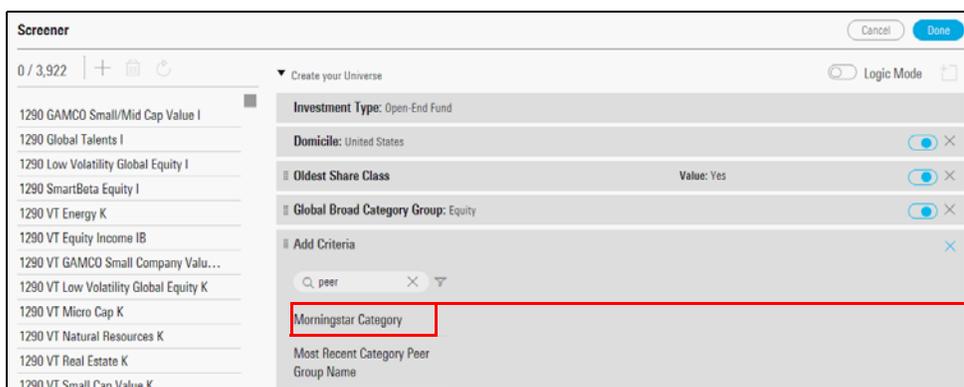
Note the search term, and the item to select

- The option for Yes should be selected already; click **OK**.



Some fields have a default option selected when you include them in a screen

- To find large-cap funds, in the **Search for data points** field, type **peer**.
- Select **Morningstar Category**. Some additional fields now appear.



The smart search capability occasionally allows you to find a data point by searching for a synonym of a data point's name

- In the Value area **Search** field, type **large**. The list of available categories updates to match your search term.
- Select **Large Blend**, **Large Growth**, and **Large Value**.

Screener 0 / 7,907

Morningstar Category OK

Operator: Include Exclude

Region: United States

Value: Allow Missing Values

Global Broad Category... Value

All > << 1/2 >>

Allocation

- Foreign Large Blend
- Large Blend
- Large Growth
- Large Value
- Foreign Large Growth
- Foreign Large Value

Use this field to narrow the list of options

Select the categories you want included in the screen

- Click **OK**.
- To find **Equity** funds, in the **Search for data points** field, type **Global**.
- Select **Global Broad Category Group**.

Screener 0 / 1,180

Create your Universe Logic Mode

Investment Type: Open-End Fund

Domicile: United States

Oldest Share Class Value: Yes

Morningstar Category: Large Blend, Large Growth, Large Value

Add Criteria

Global Broad Category Group

Global Category

Global Investment Fund Sector (GIFS)

Select this

- Select **Equity**.

Screener 0 / 1,180

Create your Universe Logic Mode

Investment Type: Open-End Fund

Domicile: United States

Oldest Share Class Value: Yes

Morningstar Category: Large Blend, Large Growth, Large Value

Global Broad Category Group OK

Operator: Include Exclude

Value: Allow Missing Values

Allocation

- Equity
- Alternative
- Commodities
- Convertibles

Select this fund to include equity funds only.

13. Click **OK**.
14. To find funds with at least three years of history, in the **Search for data points** field, type **inception**.
15. Select **Inception Date of Oldest Share Class**.
16. The Operator field defaults to Before. In the **Value** field, enter **the previous month-end date from three years ago** in MM/DD/YYYY format (Example: 02/28/2016).

The screenshot shows the Morningstar Screener interface. On the left, a list of funds is displayed, including '1290 VT Equity Income IB', 'AAM/Bahl & Gaynor Income Growth I', 'AB Equity Income A', 'AB Growth B', 'AB Large Cap Growth A', 'AB Relative Value A', 'AIG Focused Alpha Large-Cap A', 'AIG Focused Dividend Strategy A', 'AIG Focused Multi-Cap Growth A', 'Akre Focus Instl', and 'Alger Capital Appreciation B'. The main panel on the right shows search filters: 'Domicile: United States', 'Oldest Share Class' (Value: Yes), 'Morningstar Category: Large Blend, Large Growth, Large Value', and 'Fund Size Comprehensive (mo-end): Greater than or E... Value: 500000000'. The 'Inception Date of Fund's Oldest Share Class' filter is selected and highlighted with a red box. Below this, the 'Operator' field is set to 'Before', and the 'Value' field contains '02/28/2015', also highlighted with a red box. Two callout boxes provide instructions: 'Note the search term to select' points to the filter name, and 'Enter the date in MM/DD/YYYY format' points to the date in the value field.

17. Click **OK**.
18. Click **Done**.

In this exercise, you will show the 2003 Bond Selloff scenario. You will use the screen you created in Exercise 1, then select a fund from the Large Cap Equity Funds screen. Or, you can also use another list or screen.

Exercise 2: Display just one scenario at a time

Do the following:

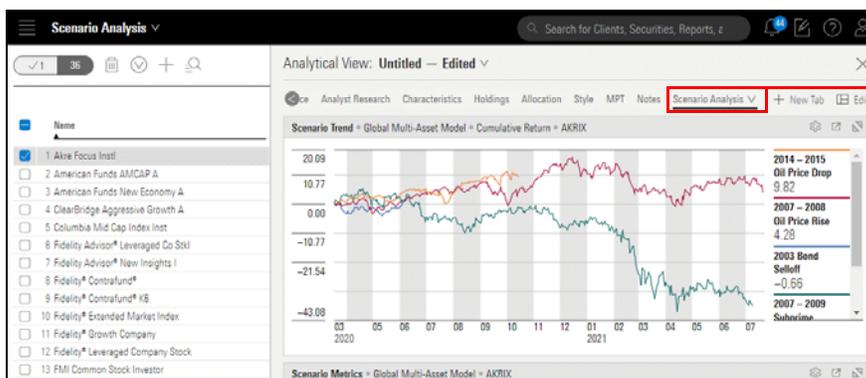
1. If the **Large Cap Equity Funds** screen appears on the Home page for you, you can click it. Otherwise, **hover the mouse** over the **Menu** icon, then select **Lists & Screens**.

Name	Type	Last Modified
Large Cap Equity Funds	Screen	03/07/2019
ESG Examples	List	03/20/2018
NYC list	List	03/19/2018
Test	List	01/25/2018
Oakmark	List	12/06/2017
San Francisco	List	11/01/2017
Dallas	Screen	10/25/2017
Fidelity	List	10/25/2017
Release List	List	08/31/2017
Preferred Investments	List	08/29/2017
Preferred List	List	08/23/2017

If this screen is available on your Home page, click to select it

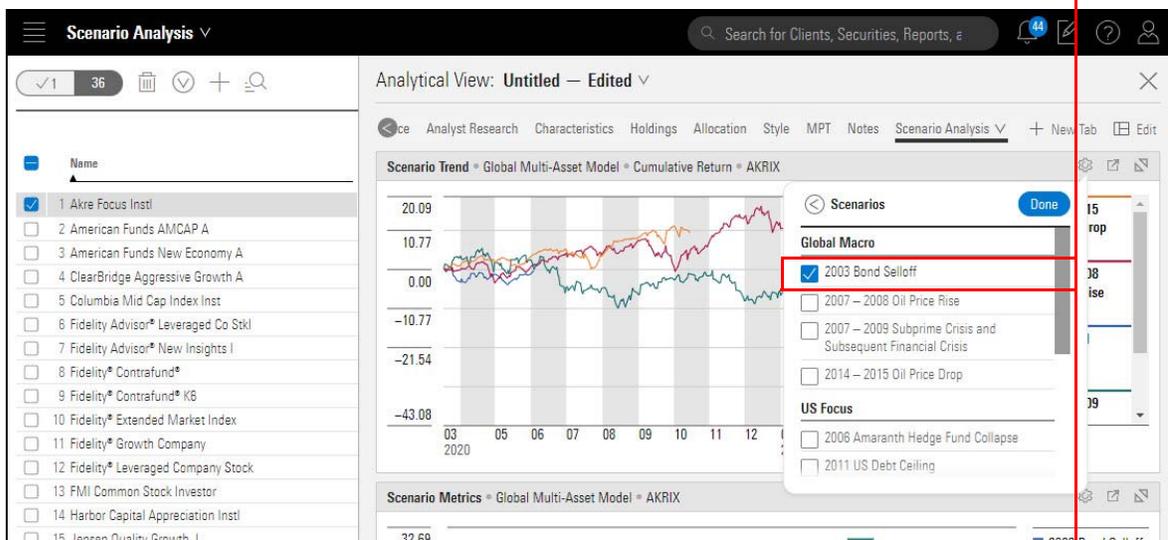
2. Click the **Large Cap Equity Funds** screen. (If you do not have this screen, use another list or screen containing equity-based funds.)
3. Click on the security you wish to analyze. The Analytical View opens.
4. Select the **Scenario Analysis** tab. This tab contains two charts:
 - ▶ Scenario Trend, and
 - ▶ Scenario Metrics.

Note: The charts in a tab always reflect data for the selected item in the left-hand pane. For these exercises, you can leave the top item selected, so long as it displays data in the components on the Scenario Analysis tab.



Click this tab.

5. In the Scenario Trend chart, click the **Component Settings** menu. The Component Settings menu opens.
6. Click **Scenario > Pre-defined Scenarios**, then **deselect** all except the 2003 Bond Selloff.
7. Click **Done**.



Be sure only this scenario is selected

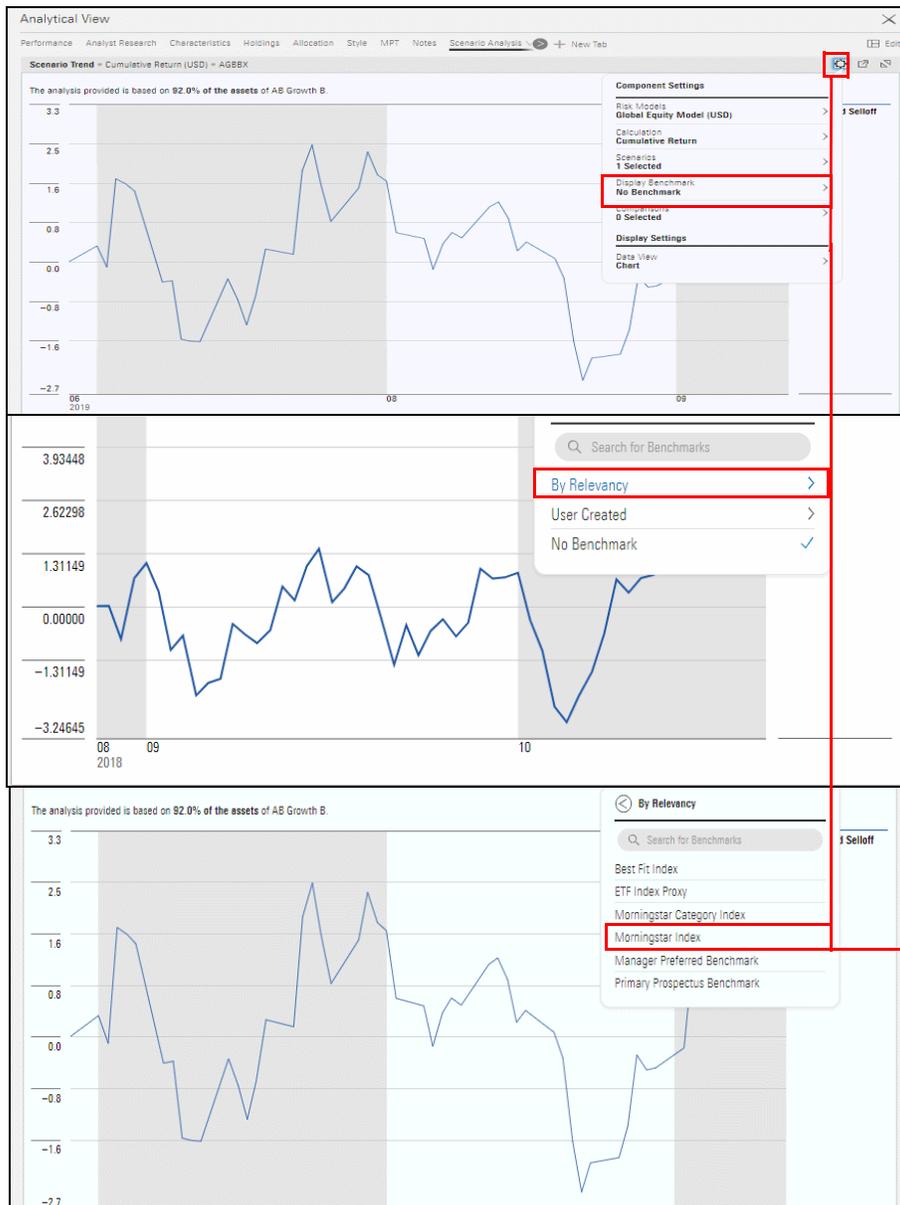
8. **Click away** from the Component Settings menu to close it.
- Note: The Scenario Metrics chart at the bottom of the Scenario Analysis tab is not affected by the change you made in the Scenario Trend component.

Isolating a single scenario makes the time series chart easier to read, but it is difficult to determine the quality of the fund’s performance by this metric alone. To compare it to its Morningstar Index, do the following:

Exercise 3: Apply a benchmark to the Scenario Trends chart

Note: When a benchmark is used in the Scenario Trends component, only one scenario (the topmost selected scenario) at a time can be displayed.

1. In the Scenario Trends chart, click the **Component Settings** icon.
2. Click the **Display Benchmark** menu, then select **By Relevancy > Morningstar Index**.



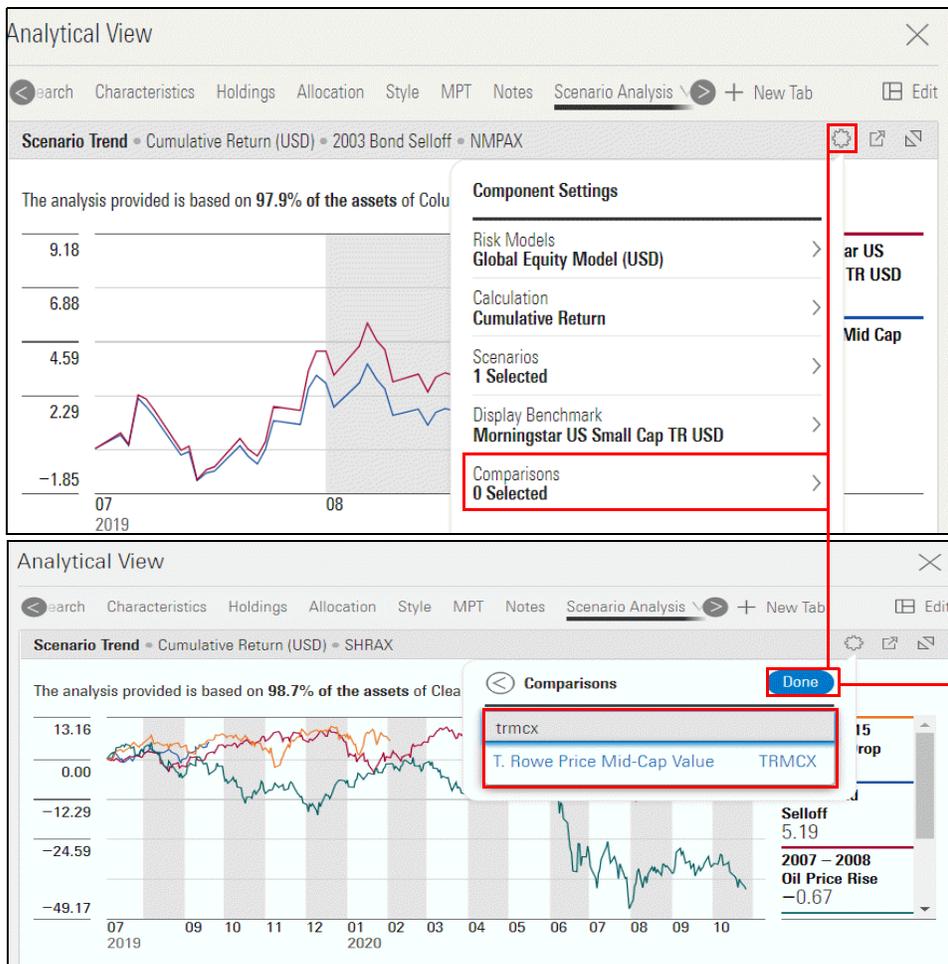
Note the options to choose to display the Morningstar Index

3. Click away from the Component Settings menu to close it.

The benchmark is a nice contrast to the fund in focus, but you can also select up to eight other funds for comparison. Do the following:

Exercise 4: Add a fund for comparison

1. In the Scenario Trends chart, click the **Component Settings** menu. The Component Settings menu opens.
2. Click the **Comparisons** option.
3. In the **Search all Securities** field, type **TRMCX**, and click the name of the fund when it appears.
4. Click **Done**.



5. **Click away** from the Component Settings menu to close it.

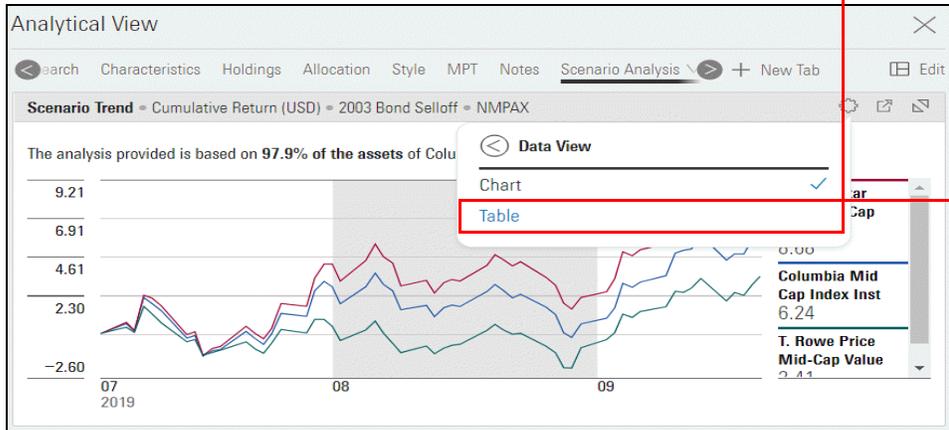
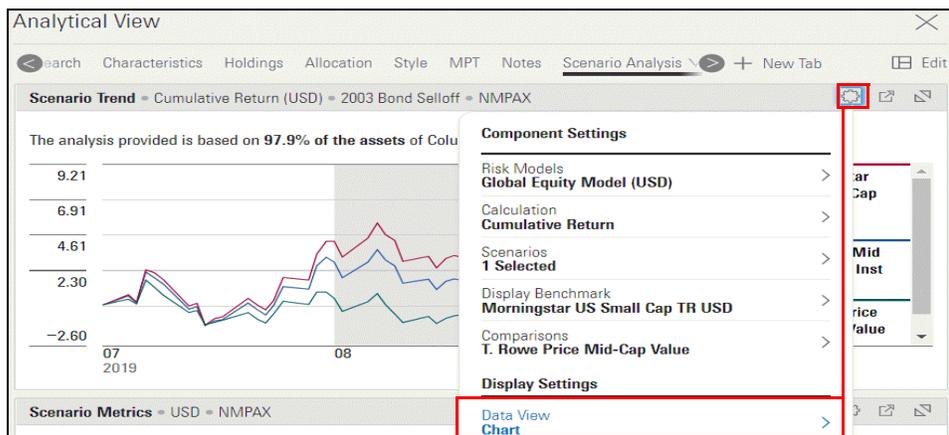
You can move your mouse over the time series line in a chart to see the return values at any point in time, but seeing the data in a table might be easier than trying to find information for a specific time period within the scenario.

Exercise 5: Convert the chart to a table

Note: By default, the data shown in a chart reflects a calculation based on the cumulative return of an investment in the scenario. When you switch to displaying the information as a table, the default calculation switches to showing you period return for an investment.

To convert the chart to a table, do the following:

1. Click the **Component Settings** icon in the Scenario Trends chart at the top. The Component Settings menu opens.
2. Click the **Data View** option, then select **Table**.



3. **Click away** from the Component Settings menu to close it.

The default calculation setting for the Scenario Trend component shows you the cumulative return for a fund as a time series. You can instead opt to see either the return of \$10K (that is, you can see what \$10,000 invested at the beginning of the scenario becomes at the end of the scenario), a series of period returns, or the drawdown a fund experiences from peak to trough during a scenario.

This exercise shows you how to display the drawdown value for the Novel Coronavirus Outbreak scenario under the Macro-Financial scenario. For this scenario, the drawdown is calculated monthly, so finding the final drawdown value is easier when the component displays a chart. (The table display is useful if you want to find the day the maximum drawdown was reached for a fund during a scenario, which is explored in the next exercise.)

To find the drawdown a fund could suffer during the Novel Coronavirus Outbreak scenario, do the following:

1. Click the **Component Settings** icon in the Scenario Trend chart at the top. The Component Settings menu opens.
2. Click **Scenario>Pre-defined Scenarios**, then deselect the **2003 Bond Selloff**.
3. Click **Scenarios>Micro-Financial Scenarios**, then select **Novel Coronavirus Outbreak**.

Exercise 6: Find the drawdown for a fund during a scenario

4. Click **Done**.

Analytical View

Scenario Trend • Period Return (USD) • 2003 Bond Selloff • NMPAX

The analysis provided is based on 97.9% of the assets of Colu

Investment Name

- 1 Columbia Mid Cap Index Inst
- 2 Morningstar US Small Cap TR USD
- 3 T. Rowe Price Mid-Cap Value

Component Settings

- Risk Models
 - Global Equity Model (USD) >
- Calculation
 - Period Return >
- Scenarios
 - 1 Selected >
- Display Benchmark
 - Morningstar US Small Cap TR USD >
- Comparisons
 - T. Rowe Price Mid-Cap Value >
- Display Settings

Use the Component Settings icon to select this item

Scenarios Done

- Pre-defined Scenarios >
- Macro-Financial Scenarios >
- Market-Driven Scenarios >

Analytical View

Scenario Trend • Drawdown (USD) • 2003 Bond Selloff • NMPAX

The analysis provided is based on 97.9% of the assets of Colu

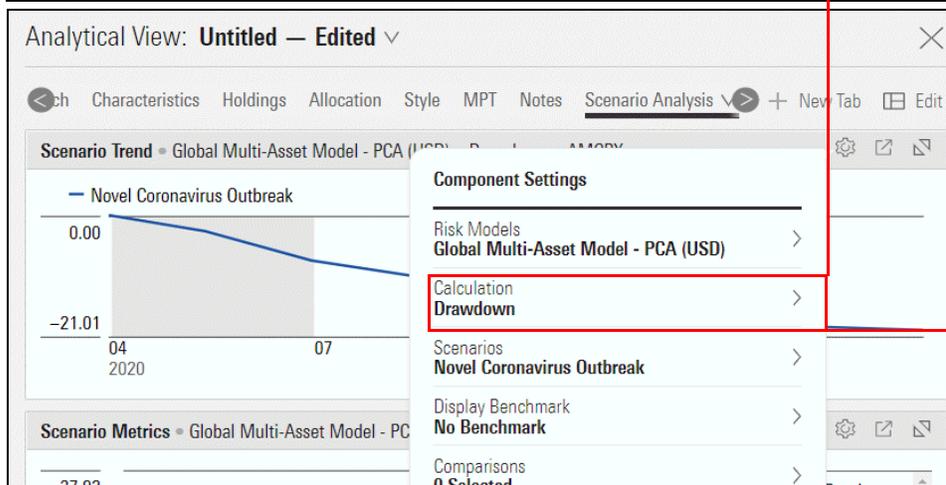
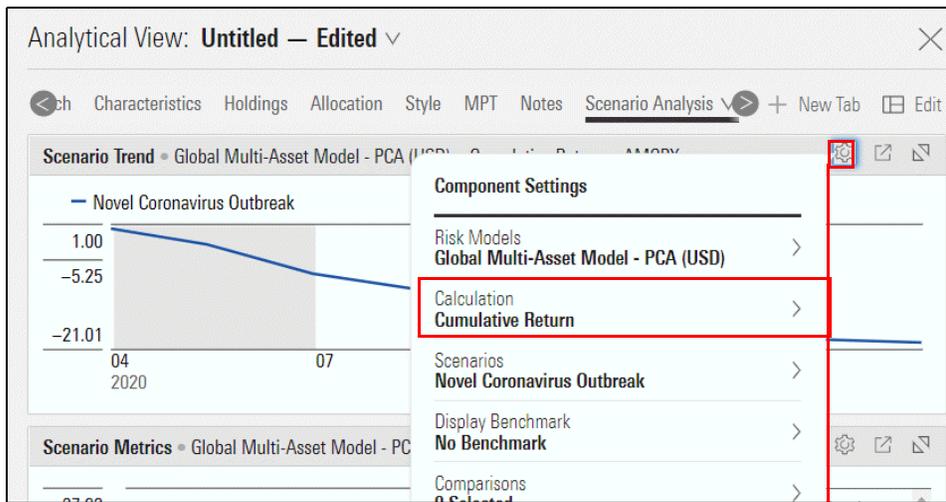
Time Period	Columbia Mid Cap Index Inst
1 07/05/2019	0.00
2 07/08/2019	0.00
3 07/09/2019	-0.44
4 07/10/2019	0.00
5 07/11/2019	-0.34
6 07/12/2019	-0.77

Macro-Financial Scenarios Done

- 30-year USD Treasury up 100 bps next year; 30yr Treasury Yield increases 100 basis points over 12 months.
- 10-year USD Treasury up 25 bps next month; 10-year USD Treasury up 25 bps next month
- Novel Coronavirus Outbreak
3 variables are shocked over 4 months: WTI Oil Price by -40%, 10yr Treasury Yield by...

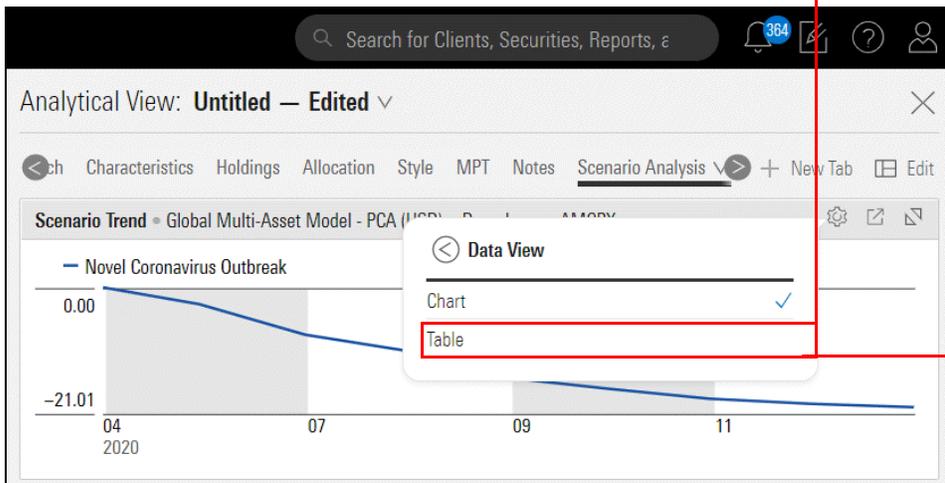
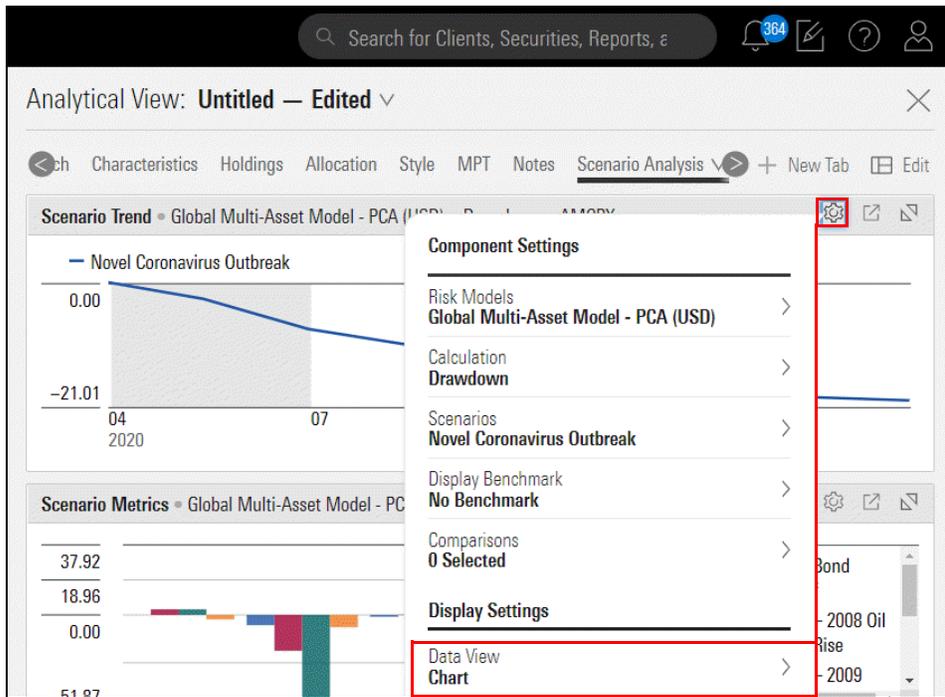
Note the options to choose to display this scenario

- Click the **Calculation** option, then select **Drawdown**.



Note the options to choose to select this option

- Click the **Data View** option, then select **Table**.



Note the options to choose to select this option

- 7. **Click away** from the Component Settings menu to close it.

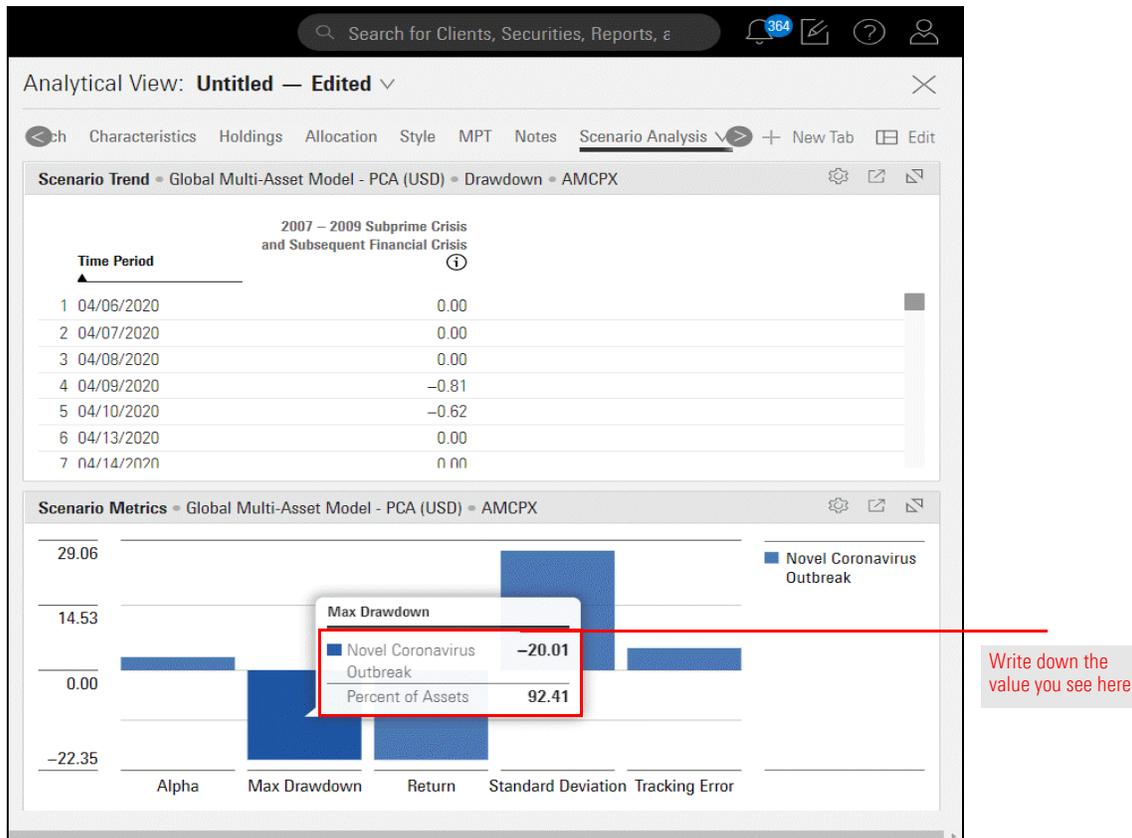
The screenshot shows the 'Analytical View' interface for 'Global Multi-Asset Model - PCA (USD) - Drawdown - AMCPX'. The 'Scenario Analysis' tab is active, displaying a table titled 'Novel Coronavirus Outbreak'. The table lists four time periods with corresponding drawdown percentages. A red box highlights the drawdown values: 0.00, -2.78, -7.90, and -10.58. A callout box on the right points to these values with the text 'View the drawdown percentages here'.

Time Period	Novel Coronavirus Outbreak
1 04/30/2020	0.00
2 05/29/2020	-2.78
3 06/30/2020	-7.90
4 07/31/2020	-10.58

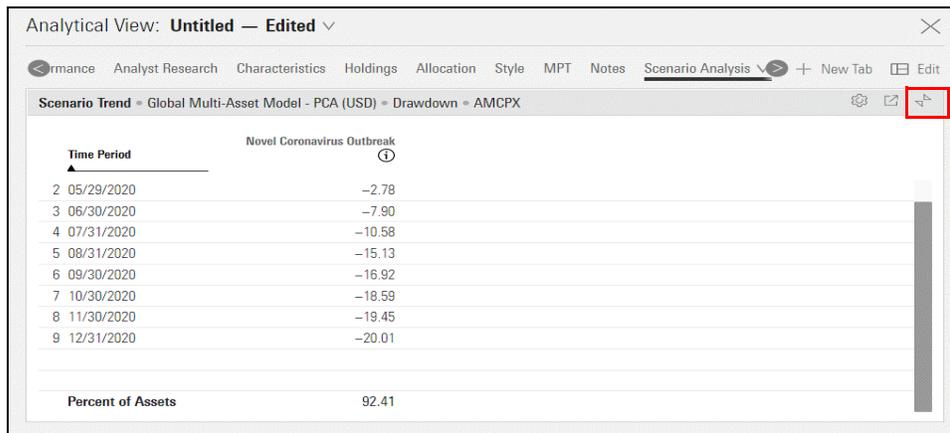
The Scenario Metrics chart contains several metrics reflecting values of the fund in focus for the scenario(s) selected. One of these metrics is Max Drawdown. You can move your mouse over the bars in the Scenario Metrics component to see the value for each one. To find the maximum drawdown for the shocks related to the Novel Coronavirus Outbreak, do the following:

Exercise 7: Find the day the maximum drawdown would be reached in a scenario

1. In the Scenario Metrics chart, in the **Component Settings** menu, click **Scenarios>Macro-Financial Scenarios**. Then select **Novel Coronavirus Outbreak**.
2. Move your mouse over the **Max Drawdown** bar, then write down the number you see.



- In the Scenario Trends chart, click the **Expand** icon. The component is resized to fill the available space in the tab.



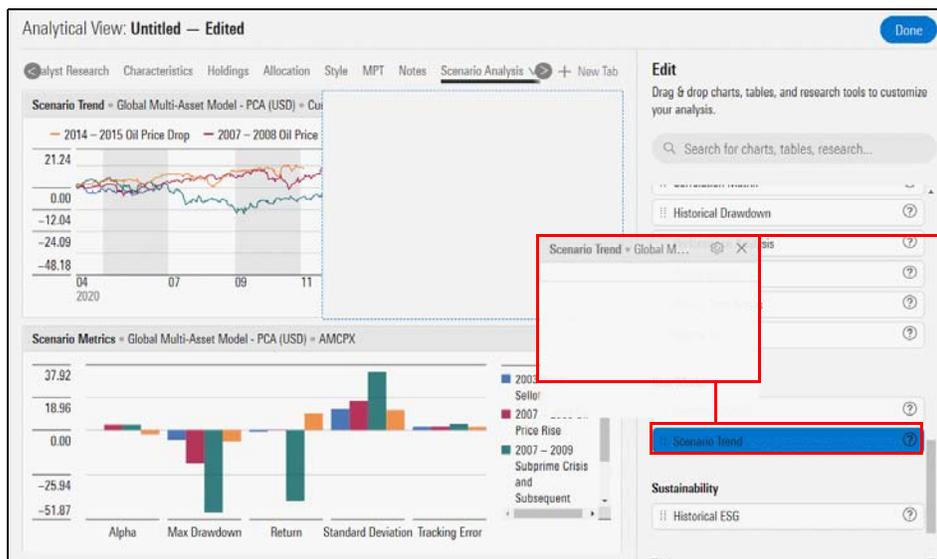
Use this icon to enlarge the component

- Scroll down** in the table until you find the date with the drawdown value that matches the value you wrote down in step 1.
- Click the **Collapse** icon. The component is resized to take up only half of the tab.

The Scenario Trends chart allows you to compare up to 10 scenarios at a time. Each of these scenarios must be part of the same scenario grouping. To view scenarios from more than one scenario grouping at a time, add a second Scenario Trends chart to the tab. Do the following:

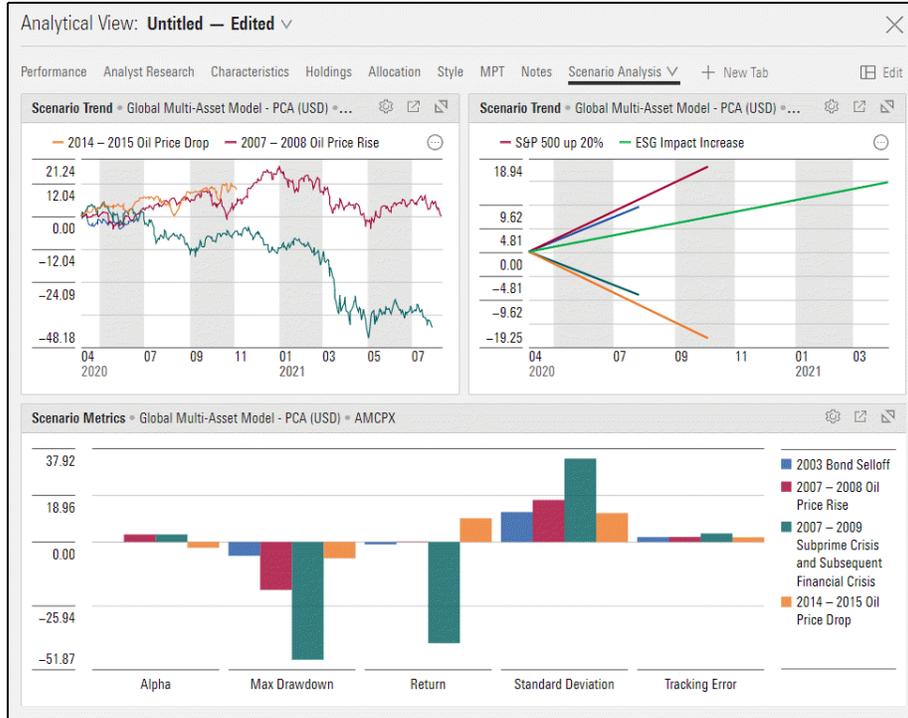
Exercise 8: View scenarios from more than one group at a time

- In the **Scenario Analysis** chart, click the **Edit** button. The Edit panel opens.
- Click and drag a second Scenario Trends chart into the tab.



Click and drag the chart here.

3. Click **Done**.
4. From the **Scenario Trends** chart, in the **Component Settings**, select **Scenarios>Market-Driven Scenarios**. Then select all five scenarios.
5. From the **Scenario Trends** chart, in the **Component Settings**, select **Scenarios>Market-Driven Scenarios**. Then select all five scenarios.



Using Scenario Analysis with Client Accounts and Model Portfolios

Now that you are familiar with how to use the Scenario Analysis tab to analyze investments, take a look at how the Scenario Analysis tab help you evaluate risk with client accounts and model portfolios.

- 📌 Note: Before starting this section, be sure to complete the [Working with Clients & Accounts](#) and [Working with Custom Benchmarks and Model Portfolios](#) manuals.

Both the scenario trends and the scenario metrics charts are available within the Clients & Accounts, Prospects and Model Portfolios analytical views. Use these charts with quick accounts, transactional account or model portfolios to evaluate how the account or portfolio would perform if the same risk factors from a past market or macroeconomic event were to reoccur.

However, please note the following differences:

- ▶ Primary Benchmarks must be added manually
- ▶ Alpha and tracking error cannot be calculated without a manually selected model within the Scenario Metrics chart, and
- ▶ Only one household, account or model can be evaluated using the Scenario Analysis charts at a time. In other words, you cannot compare different accounts and models as you can with investments.

In this section, you will evaluate how the Roop family's current account might perform in a specific scenario. From there, you will add a model portfolio to the scenario to compare how a conservative line-up might be used as a risk management strategy.

Start by creating a conservative model portfolio using the skills you acquired when working through the [Working with Model Portfolios and Custom Benchmarks](#) exercise manual. Once created, compare the conservative model to the Roop's Current Account.

Do the Following:

1. On the header, click the **Create** icon, then select **Model Portfolio**. Create a Model Portfolio box opens.



Select this option.

Overview

Exercise 9: Create a conservative model

- In the **Model Portfolio Name** field, type **Conservative Model**. Then click **Next**. The Creating: Conservative Model box opens.

Create a Model Portfolio
Cancel **Next**

You can always change these details later in Settings. *Required

Model Portfolio Name*

Benchmark*

Enter the name of your model here.

- Click the **Add Holdings** button.
- Using the table below, enter tickers and weight percentages.

Ticker	Weight
GOVT	40
LQD	29
HYXU	10
IVV	7
IWM	5
EFA	5
IYR	4

Creating: Conservative Model
Save **Close**

Choose holdings for this model portfolio, then set your allocations by either entering the weights or using Set Equal Weight.

+ Add Holdings Set Equal Weight
Calculate

0/7 | Delete | Clear Weight | Export
Column Set: Asset Allocation (Long Rescaled) v
Allocation * Long Rescaled * 03/18/2020

Name	Weight %	Ticker	US Stock	Non-US Stock	Bond	Cash	Other/NotClass..
Morningstar US Market TR USD		MSTART	98.84	1.36	0.00	0.00	0.00
Edited	100.00		15.84	5.04	76.35	1.73	1.0
Unallocated Cash	0.00	SCASHEQS					
<input type="checkbox"/> 1 iShares US Treasury Bond ETF	40.00	GOVT	0.00	0.00	97.85	2.15	0.00
<input type="checkbox"/> 2 iShares iBoxx \$ Invmt Grade Corp Bd ETF	29.00	LQD	0.00	0.00	94.71	1.95	3.34
<input type="checkbox"/> 3 iShares International High Yield Bd ETF	10.00	HYXU	0.00	0.00	97.38	1.93	0.00
<input type="checkbox"/> 4 iShares Core S&P 500 ETF	7.00	IVV	98.25	1.23	0.00	0.52	0.00
<input type="checkbox"/> 5 iShares Russell 2000 ETF	5.00	IWM	98.89	0.89	0.00	0.41	0.00
<input type="checkbox"/> 6 iShares MSCI EAFE ETF	5.00	EFA	0.91	98.21	0.00	0.85	0.00
<input type="checkbox"/> 7 iShares US Real Estate ETF	4.00	IYR	99.60	0.00	0.00	0.40	0.00

- US Stock
- Non-US Stock
- Bond
- Cash
- Other/Not Classified

Enter holding here.

Enter weight percentages here.

- Click **Save**. Then click **Close**.

Now, evaluate the quick account you created for the Roop's to determine how the risk factors associated to the 2018 Market Volatility scenario would affect their current line-up in today's market.

Exercise 10: Display one scenario for the Roop family

Do the following:

1. From the **Home** page, in the **Clients** widget, click the **Roop Family**. The Roop Family Analytical View opens.

The screenshot shows the Morningstar Office interface. At the top, there is a search bar with the text "Search for Clients, Securities, Reports, and Research...". Below this is a section titled "Practice Management Reports" with three options: "Your assets under management", "Your practice's overall performance", and "Unrealized gains & losses for all your clients". The main content area is divided into two panels: "Clients" and "Lists & Screens".

The "Clients" panel contains a table with the following data:

Client Name	Assets Under Management
Baker Household	\$308,201.92
Sample Client	\$278,805.59
Wells Family	\$86,260.25
Wells Family Demo	\$86,260.25
Roop Family	\$7,906.56

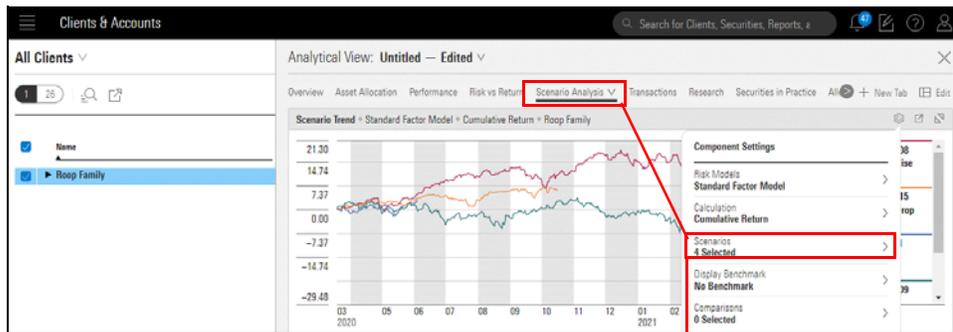
The "Lists & Screens" panel contains a table with the following data:

Name	Type	Last Modified
Emerging Markets	Screen	03/19/2020
Low performing funds	Screen	03/18/2020
High Rated International Fu...	Screen	03/04/2020
New Ideas	List	03/04/2020

A red box highlights the "Roop Family" row in the Clients table. A red arrow points from a grey box containing the text "Select this option." to the "Roop Family" row.

2. In the **Analytical View** panel, click **Scenario Analysis**.
3. In the **Scenario Trends** chart, click the **Component Settings** icon.
4. From the **Component Settings** drop-down menu, select **Scenarios**. The Scenarios sub-menu opens.

5. Deselect the **four preselected scenarios**. Then select the **2018 Market Volatility** scenario.



The 'Scenarios' modal window is displayed, showing three categories: Pre-defined Scenarios, Macro-Financial Scenarios, and Market-Driven Scenarios. A red box highlights the 'Pre-defined Scenarios' category.



Select this option.

6. Click **Done**.

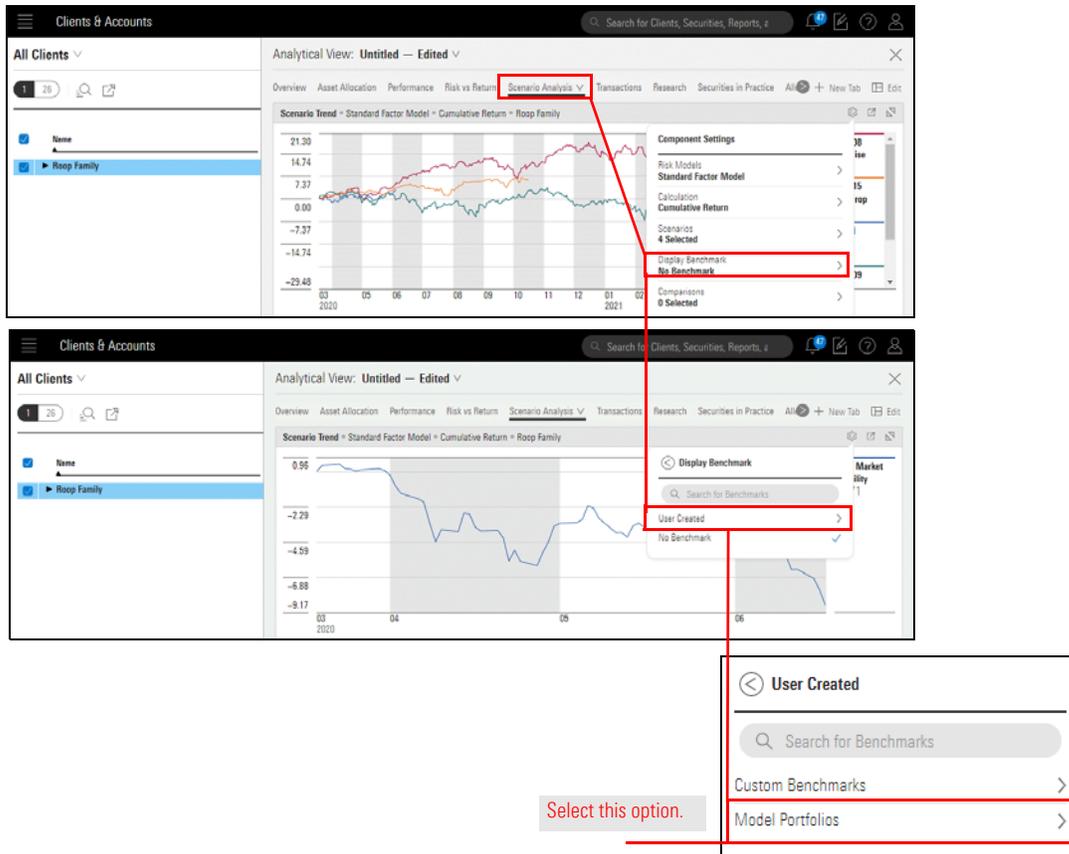
Compare the conservative model you created in Exercise 10 to the Roop’s current account line-up.

Exercise 11: Add the Conservative Model to the Scenario Trends chart

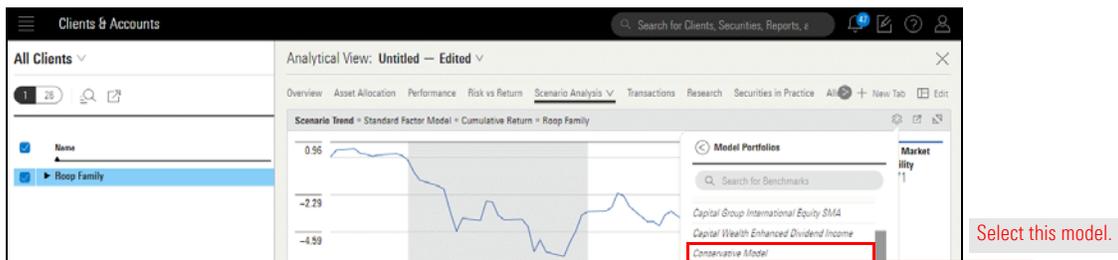
Note: You can only add one model portfolio or benchmark to the Scenario Trends chart.

Do the following:

1. In the **Scenario Trends** chart, click the **Component Settings** icon.
2. From the **Component Settings** menu, select **Display Benchmark**. Then select **User Created > Model Portfolios**.



3. From the **Model Portfolios** menu, select **Conservative Model**. Click off the Component Settings menu.



In some cases, you may want to compare more than one index or benchmark. Using the comparison tool, you can add up to 9 indexes or funds to compare with an account or model.

Exercise 12: Add an index using the comparison feature

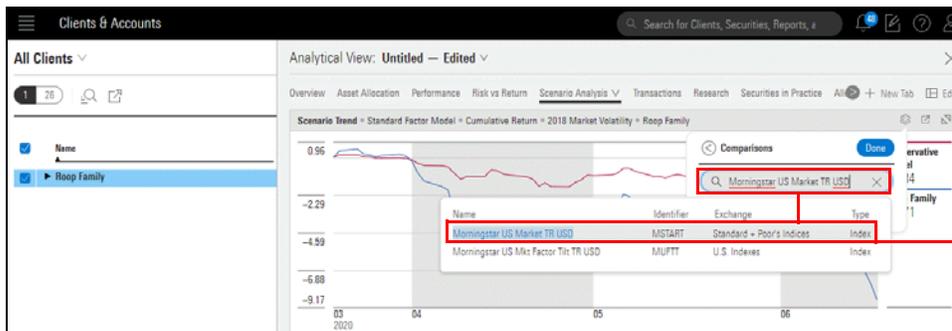
In this exercise, add the Morningstar US Market TR USD index to your chart. Do the following:

1. In the **Scenario Trends** chart, click the **Component Settings** icon.
2. From the **Component Settings** menu, select Comparisons.



Select this option.

3. In the Search for Benchmarks field, type **Morningstar US Market TR USD**. Then select the appropriate index.



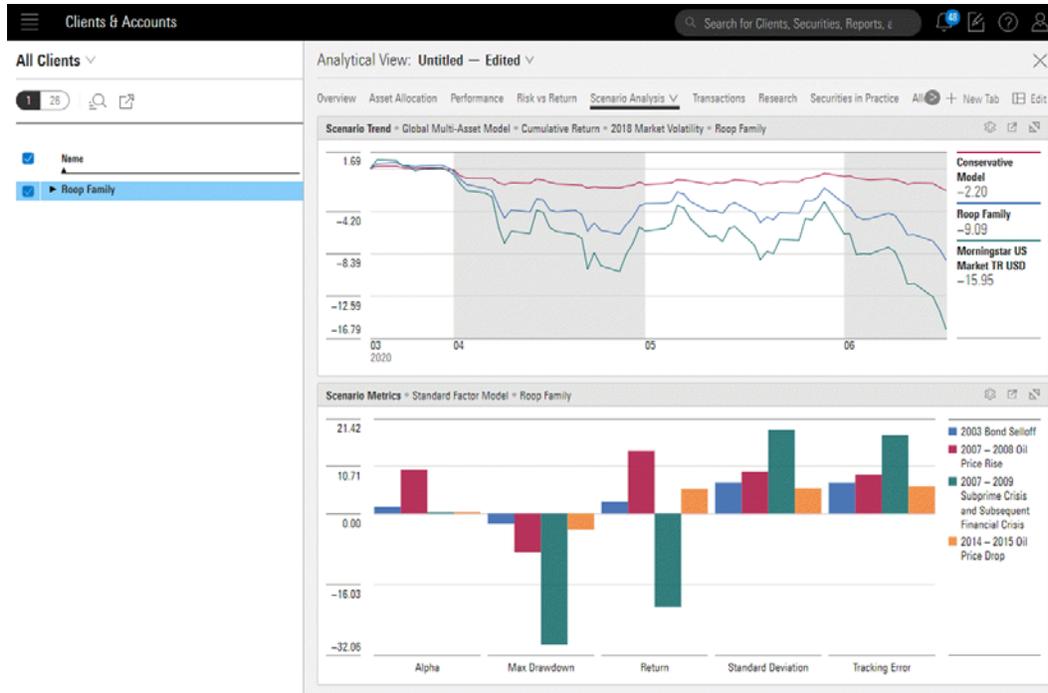
Callout

4. Click **Done**.

In this section, you analyzed how the risk factors during the 2018 Market Volatility might affect the Roop Family’s current account in today’s market.

In addition, you compared the Roop’s line-up with a more conservative line-up and a standard index.

How do I analyze the underlying holdings within accounts and models?



Now that you understand how the account as a whole would perform, You might want to examine the underlying holdings of the account and model.

To analyze underlying holding in the Investments area, create a list of investments that comprise the holdings in the account or portfolio. There are many ways to create a list in Morningstar Office Cloud.

For detailed instructions on creating lists, complete the [Creating Lists](#) exercise guide.