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Contents

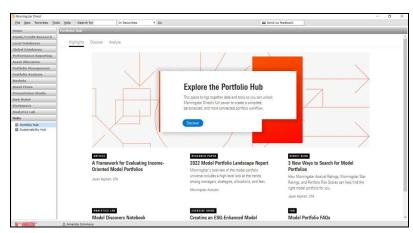
	Uverview	
Exploring	g the Latest and Greatest Content in the Portfolio Hub	5
	Overview5Exercise 1: Explore the content on the Highlights page5Exercise 2: Search for models6Exercise 3: Create a custom data set for models8	
Discover	ring Potential Holdings for Model Portfolios	12
	Overview12Exercise 4: Customize a one-click search13Exercise 5: Investigate models in the Model Discovery Notebook16	
Using Cl	harts to Quickly and Holistically Analyze Portfolios	18
	Overview18Exercise 6: Select a model on the Analyze page in the Portfolio Hub18Exercise 7: Open the Portfolio Dashboard in a standalone window20Exercise 8: Change all dashboard settings at once21Exercise 9: Move an existing component to a new tab23Exercise 10: Add a tab for Allocation data27Exercise 11: Save and reopen a dashboard29	



Performing Portfolio Discovery, Management, and Analysis with the Portfolio Hub

The Portfolio Hub of Morningstar DirectSM brings together data and tools for a more connected experience between portfolio discovery, management, and analysis. Explore the latest research and thought leadership and find out about the latest and greatest capabilities available in the hub from the Highlights tab. Start your portfolio discovery process with workflow-driven solutions on the Discover page. This tab offers users tools aimed at discovering portfolios, funds, peers, and thought leadership. One-click searches in the Portfolio Hub support users by introducing them to new analyses. It is quick and easy to perform screenings that respond to current market conditions or searches that introduce you to new data available in Direct in simple, meaningful ways. Use powerful visualizations and charts to quickly and holistically analyze portfolios in the Analyze tab.

The Portfolio Hub can be used for analyzing portfolios from the Models universe, custom models from the Portfolio Management module, or individual managed investments, such as mutual funds, ETFs, or Separate Accounts.



This manual provides several ideas on how to leverage the content and capabilities in the Portfolio Hub via the following topics:

- ► Exploring the Latest and Greatest Content in the Portfolio Hub (page 5)
- ► Discovering Potential Holdings for Model Portfolios (page 12)
- ► Using Charts to Quickly and Holistically Analyze Portfolios (page 18)

Overview

Exploring the Latest and Greatest Content in the Portfolio Hub

The Highlights page in the Portfolio Hub is dedicated to showing the following content:

Overview

- ► model-related functions in Morningstar Direct
- ▶ workflow-driven solutions
- ► thought leadership on models from Morningstar, and
- ► ways to make model-related processes easy to execute.

This content can be turned into actionable workflows throughout Morningstar Direct. This section offers the following exercises in support of this functionality:

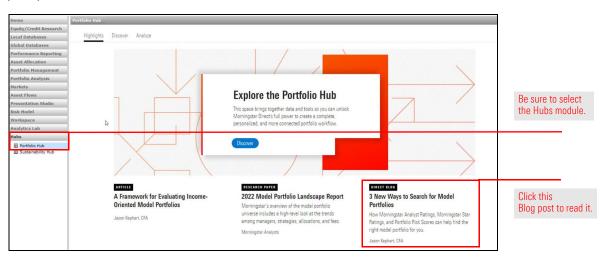
- ► Exercise 1: Explore the content on the Highlights page on page 5
- ► Exercise 2: Search for models on page 6, and
- Exercise 3: Create a custom data set for models on page 8.

The Highlights page offers (among other content) material from the Blog. The Blog features posts from Senior Manager Research Analysts at Morningstar, where they explain how they use Morningstar Direct to complete certain exercises themselves. This exercise shows users how to take the content from a Blog post found on the Highlights page of the Portfolio Hub and turn it into a list with custom data points.

Note: The content available on the Highlights tab is updated regularly to share relevant information with users. Once articles are removed from the Highlights page, they can still be accessed elsewhere in Morningstar Direct. If this blog post no longer appears here, visit the Blog page under the Home module, and it can be found there.

Do the following:

- In the left-hand navigation pane, select the **Hubs** module. The Portfolio Hub is selected by default. Confirm the **Highlights** page is also selected by default.
- 2. If needed, **scroll** to review available content. This may include articles, exercise guides, Direct blog posts, research papers, and more.
- 3. Click the Direct Blog post named **3 New Ways to Search for Model Portfolios**. The blog post opens within the Portfolio Hub.



Exercise 1: Explore the content on the Highlights page



4. **Read the blog post** to understand the various ways the author prescribes for finding both models and relevant data points for evaluating these strategies.

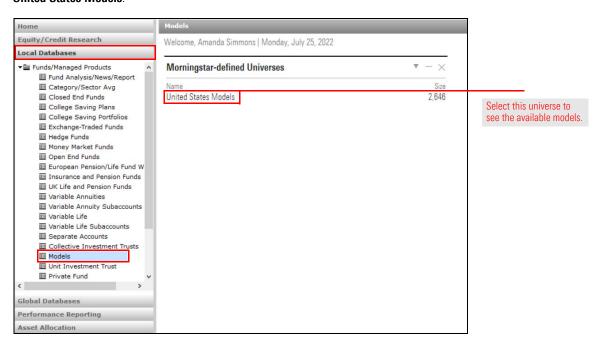
The blog post describes looking for certain data points to see which models have earned a Morningstar Analyst Rating. While this is a valid approach for seeing these models, it does not result in a sustainable approach for finding these models on a regular basis. That is, you would have to repeat the steps every time to see these models. Instead, a search criteria can be created and saved, so each time it is opened it dynamically shows only those models earning a Morningstar Analyst Rating of Bronze or better.

Note: Morningstar Analyst Ratings range from Gold, Silver, Bronze, Neutral, and Negative. These represent our forward-looking confidence in their ability to outperform their Morningstar Category benchmarks on a risk-adjusted basis over the long term. Each model is rated on three pillars: People, Process, and Parent.

Exercise 2: Search for models

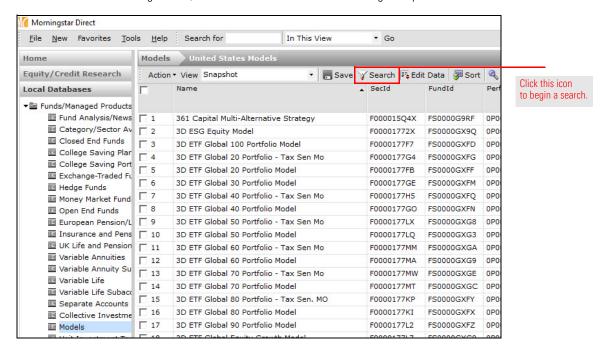
Do the following:

From the left-hand navigation pane, select Local Databases > Models > United States Models.





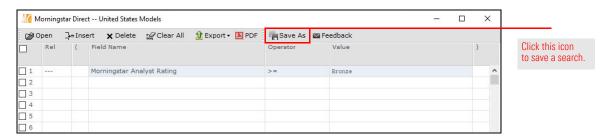
2. From the toolbar above the grid view, click **Search**. The Search Criteria dialog box opens.



3. Use the following table to guide the selections for the Search Criteria window:

Field Name	Operator	Value
Morningstar Analyst Rating	>=	Bronze

4. Click Save As, then name the search criteria Medalist Models.



5. Click **OK** to close the search criteria window and see the results.

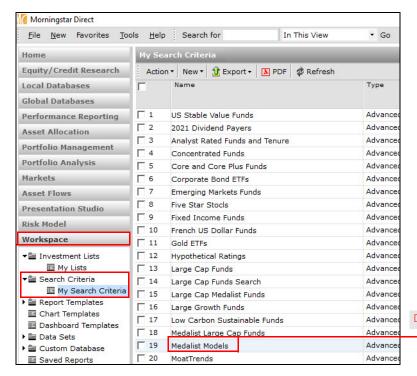


The next step (as outlined in the Blog post) is to select a custom set of data points to further analyze the models. This work can best be done in the Workspace module, so the custom data set can be permanently associated with the saved search criteria.

Exercise 3: Create a custom data set for models

Do the following:

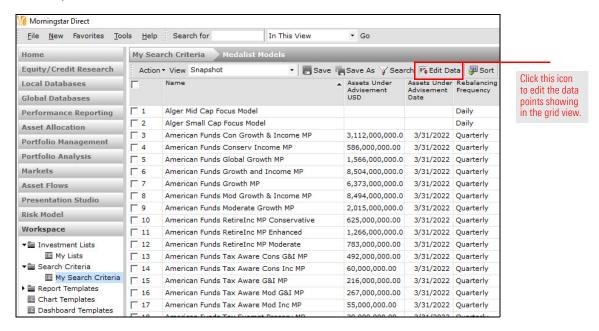
- From the left-hand navigation pane, select Workspace > Search Criteria > My Search Criteria.
- 2. **Double-click** the **Medalist Models** search to open it.



Double-click a search criteria to open it.



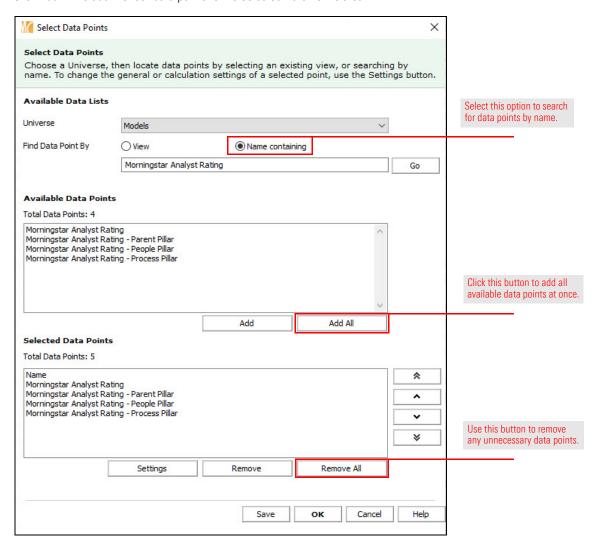
3. From the toolbar above the grid view, click **Edit Data**. The Select Data Points window opens.



- 4. At the bottom of the window, click **Remove All**. Only the Name data point remains.
- Select the option for Name Containing, then search for Morningstar Analyst Rating.

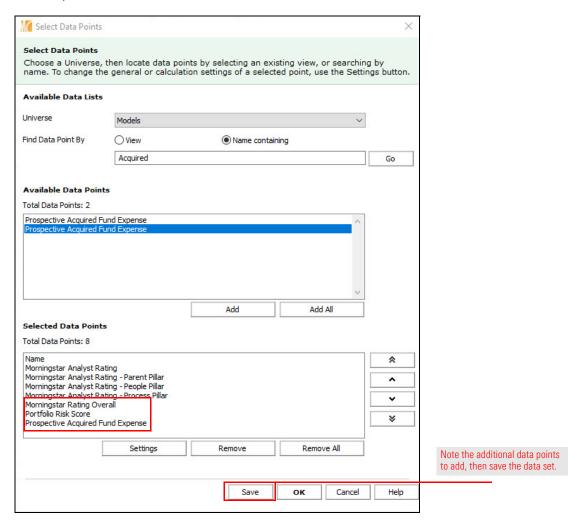


6. Click Add All to add the four data points to the Selected Data Points area.





- 7. Per the blog post, **search for** and **add** the following data points:
 - ► Morningstar Rating Overall
 - ► Portfolio Risk Score, and
 - Prospective Acquired Fund Expense.
 - Note: When searching for Portfolio Risk Score and Prospective Acquired Fund Expense, be sure to add only the second instance of each data point, as this shows only the current value, while the first instance shows the entire time series' values for the data point.
- 8. Click **Save**, then name the custom data set **Model Data Points**.



- 9. Click **OK** to close the Selected Data Points window and return to the grid view.
- 10. From the toolbar, click **Save**. This ensures each time this search criteria is opened, the custom data set also opens with it.



Discovering Potential Holdings for Model Portfolios

The Discover tab offers a centralized location for tools aimed at discovering portfolios, peers, and thought leadership. The content is split into the following sections for easy access to appropriate data:

Overview

- ► Trending Portfolio Discovery
- ► Trending Underlying Investment Discovery, and
- ► Morningstar Research.

This section offers the following exercises to help navigate this functionality:

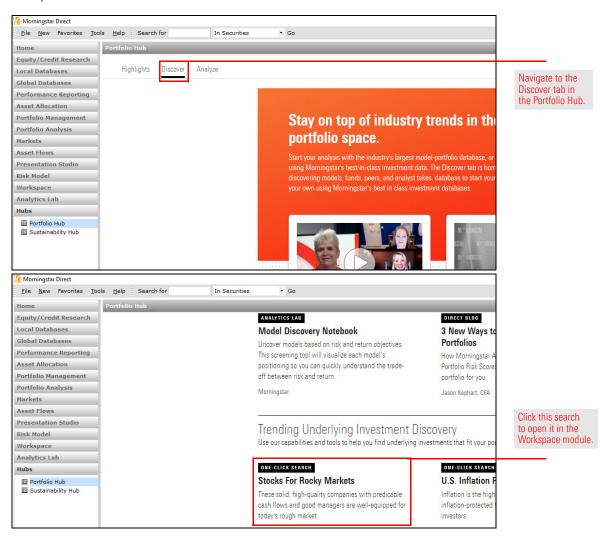
- ► Exercise 4: Customize a one-click search on page 13, and
- ► Exercise 5: Investigate models in the Model Discovery Notebook on page 16.



One-click searches are built around current market developments or industry trending topics. They can be used to screen for investments responding to current market conditions or searches for new data available in Morningstar Direct. This exercise shows users how to view a one-click search, as well as how to evaluate the criteria used to construct it and modify those criteria. Do the following:

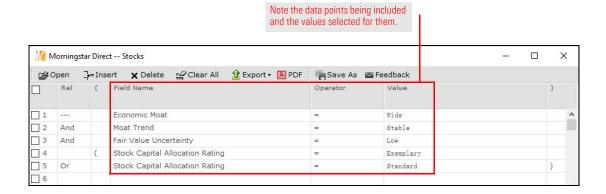
Exercise 4: Customize a one-click search

- 1. Select the **Hubs** module. In the Portfolio Hub, click the **Discover** tab.
- In the Trending Underlying Investment Discovery section, click the one-click search named Stocks for Rocky Markets. The results of the search open in the grid view in the Workspace module.



3. To review the search criteria, from the toolbar above the grid view click **Search**. The search criteria window opens. The following table describes the data points being used:

This data point	Shows
Economic Moat	The competitive advantage one company has over others in its industry; only companies with a wide economic moat are being considered here
Moat Trend	Whether the economic moat is trending narrower or wider (that is, is the company seeing more or less separation from their competitors?)
Fair Value Uncertainty	The confidence a Morningstar Analyst has in their Fair Value Estimate for a stock; looking for stocks with Low Fair Value Uncertainty means only those stocks with the highest confidence around the Analyst's price are being considered
Stock Capital Allocation Rating	The Morningstar Analyst's evaluation of how the manager is allocating money





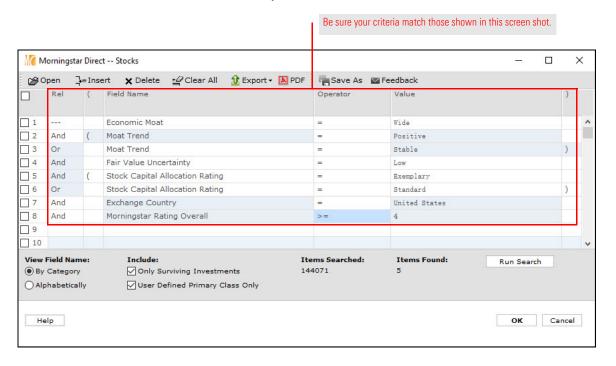
- 4. The following additions can further strengthen the results in terms of finding stocks to consider including in a model portfolio:
 - ► include companies with a positive Moat Trend
 - ensure the stocks resulting from the search are available on a U.S. exchange, and
 - ► look only for undervalued stocks.

Modify the search criteria window as shown in the following table:

Note: Be sure to add the additional row for Moat Trend, and use the parentheses symbols as shown.

Rel	(Field Name	Operator	Value)
		Economic Moat	=	Wide	
And	(Moat Trend	=	Positive	
Or		Moat Trend	=	Stable)
And		Fair Value Uncertainty	=	Low	
And	(Stock Capital Allocation Rating	=	Exemplary	
Or		Stock Capital Allocation Rating	=	Standard)
And		Exchange Country	=	United States	
And		Morningstar Rating Overall	>=	4	

5. Click Save As and name the search Stocks For Rocky Markets.



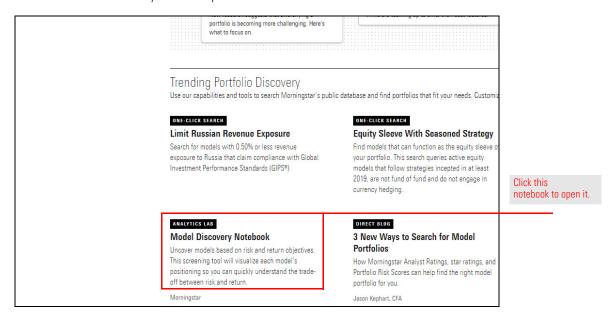
6. Click **OK** to run the search and see the results.



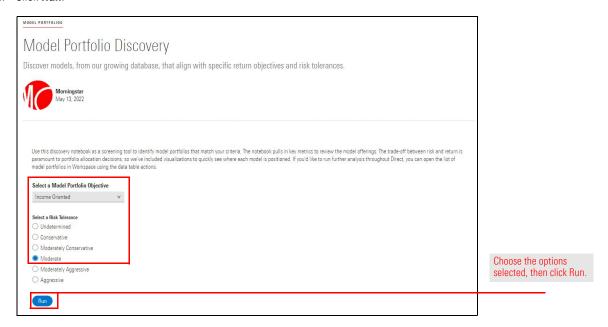
The Model Discovery Notebook helps to uncover and visualize a model's positioning based on risk and return objectives. Users can quickly understand the trade-off between risk and return, a key consideration for portfolio allocation decisions.

Exercise 5: Investigate models in the Model Discovery Notebook

- 1. Select the **Hubs** module. In the Portfolio Hub, click the **Discover** tab.
- Under the Trending Portfolio Discovery section, click the Model Discovery Notebook.
 The Model Portfolio Discovery notebook opens in a new window.

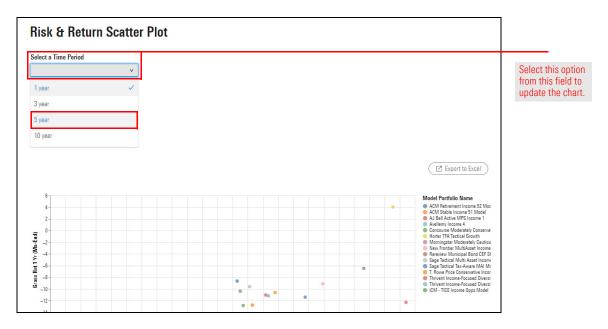


- 3. From the **Select a Model Portfolio Objective** drop-down field, select **Income Oriented**.
- 4. Select the Risk Tolerance option for **Moderate**.
- 5. Click Run.





- 6. **Scroll down** to review and interact with the results.
- 7. In the Risk & Return Scatter Plot chart, change the **Select a Time Period** drop-down field to **5 year**.
 - Note: You can use your mouse wheel to zoom in and out of the graph. Once you zoom in, you can also click-and-drag to move the visible portion of the graph.



8. **Hover the cursor** over the dot for the model with the best risk-adjusted return on the chart, and make a note of its name. The next set of exercises shows how to analyze this model using the Portfolio Dashboard.



Using Charts to Quickly and Holistically Analyze Portfolios

The Analyze tab in the Portfolio Hub eases the heavy lifting required by users when building a robust due diligence and program monitoring workflow. You can access, review, and interact with the Portfolio Dashboard, either in the Portfolio Hub, or outside of it if modifications need to be made to it. This section offers the following exercises in support of this functionality:

- Exercise 6: Select a model on the Analyze page in the Portfolio Hub on page 18
- ► Exercise 7: Open the Portfolio Dashboard in a standalone window on page 20
- ► Exercise 8: Change all dashboard settings at once on page 21
- ► Exercise 9: Move an existing component to a new tab on page 23
- ► Exercise 10: Add a tab for Allocation data on page 27, and
- ► Exercise 11: Save and reopen a dashboard on page 29.

Before altering the settings for the Portfolio Dashboard, it will help to ensure the correct portfolio is showing there. To select the top-performing model from the previous exercise, do the following:

Exercise 6: Select a model on the Analyze page in the Portfolio Hub

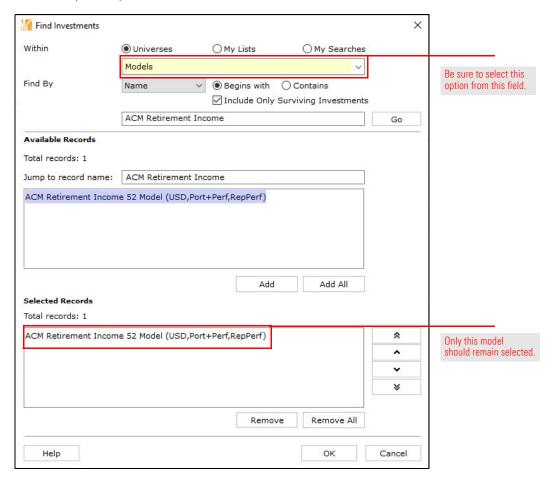
Overview

- 1. Select the **Hubs** module. In the Portfolio Hub, click the **Analyze** tab. A default portfolio is selected, and several tabs are pre-populated with components and data for that model.
- 2. At the top of the dashboard, click **Change**. The Find Investments dialog box opens.





- 3. Change the **Universes** drop-down field to **Models**.
- 4. **Search for** and **add** the best-performing model from the previous exercise.
- 5. **Remove** the previously selected model.



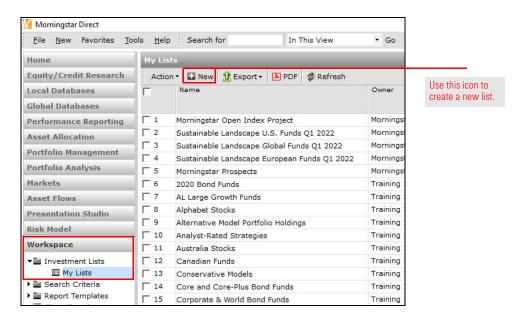
- 6. Click **OK** to close the Find Investments dialog box.
- 7. Click each **tab** to review the data each component offers in the dashboard. While the components could be modified here, the following limitations exist when updating the Portfolio Dashboard on the Analyze page:
 - ► No new tabs can be added
 - ► The order and labels for the existing tabs cannot be changed or removed, and
 - ► The settings changed cannot be saved so they can be easily recalled later.

For these reasons, the desired changes will not be made within the Portfolio Dashboard here, but rather in the standalone version. The following exercise provides instructions on how to do this.

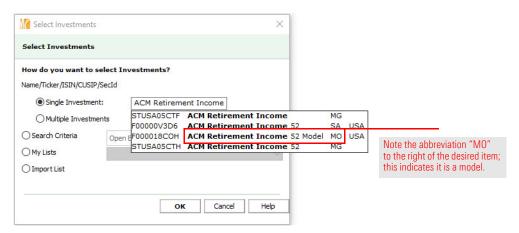
Creating a custom dashboard allows users to have full control over the tabs included, the names of those tabs, and the order in which they appear. Users can also delete components from existing tabs, include new tabs in a dashboard, and select components which do not appear by default in the dashboard. The first step is to open the Portfolio Dashboard in its own window. Do the following:

Exercise 7: Open the Portfolio Dashboard in a standalone window

- Note: To be able to edit and save customized dashboard templates, version 3.20.014 of Morningstar Direct must be installed.
- 1. Navigate to the **Workspace** module. Be sure the **My Lists** page is selected.
- 2. From the toolbar, click **New**. The Select Investments window opens.



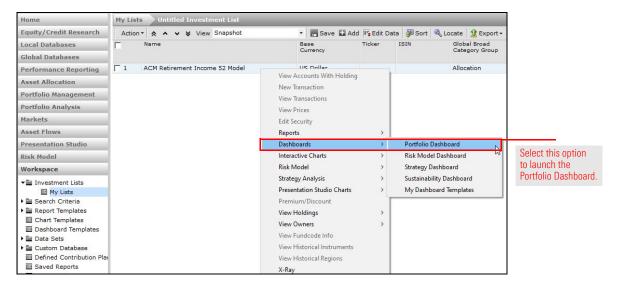
3. Search for the **top-performing model** from Exercise 5 on page 16; when its name appears, click to select it.



- 4. Click **OK** to close the Select Investments dialog box.
 - Note: To be able to use this list again, click Save and give it a name. Note that the custom dashboard being created here will effectively be a template users can employ with any model (or managed investment), not just the one on this list.



Right-click the row with the model, then select Dashboards > Portfolio Dashboard.
 The Portfolio Dashboard opens in a new, full-size window.



Some changes in a dashboard can be applied universally to all components at once by using the Dashboard Settings icon in the upper-right corner of the dashboard. To see this in practice, do the following:

Exercise 8: Change all dashboard settings at once

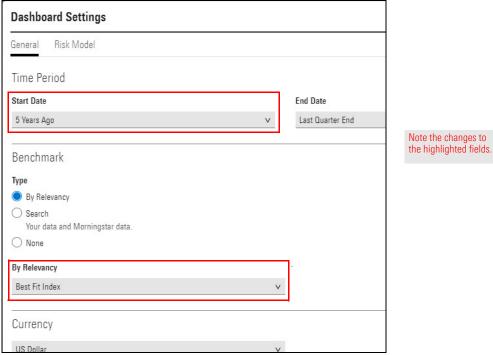
1. Click **Dashboard Settings**. The Dashboard Settings dialog box opens.





2. Use the following table to make the prescribed changes in the Dashboard Settings window:

In this section	Change this field	To this setting
Time Period	Start Date	5 Years Ago
Benchmark	By Relevancy	Best Fit Index



3. Click **Update** to save your changes. Next, a component will be removed from one tab and added to another.



The Holdings tab contains a Holdings Plot component showing risk-and-return statistics for the holdings in the model. This is good information, but it would be more helpful to be able to contrast this with the same data from one year ago to see how the portfolio manager is addressing risk today compared to five years ago. To accomplish this, the following process will be used:

- Exercise 9: Move an existing component to a new tab
- 1. The existing Holdings Plot component will be removed from the Holdings tab
- 2. A new tab will be added
- 3. Two instances of the Holdings Plot will be added here, stacked vertically
- 4. The new tab will be renamed and moved to the right of the existing Holdings tab

To accomplish this task, do the following:

1. In the upper-right corner of the dashboard window, click **Edit Charts & Tables**. The Edit Charts & Table panel opens from the right.

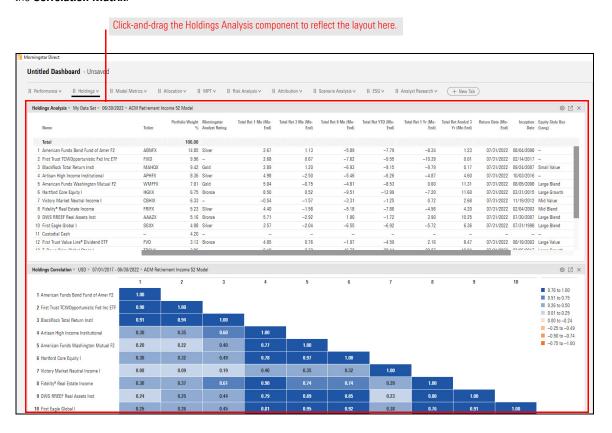


- 2. Select the **Holdings** tab.
- 3. Remove the **Holdings Plot** component by clicking the **x** in the upper-right corner of the component.





4. Click-and-drag the Holdings Analysis component (grab it by its header) to be above the Correlation Matrix.





- 5. Click + New Tab.
- 6. From the Edit Charts & Tables panel, **drag-and-drop** two instances of the **Holdings Plot** component, stacked vertically.



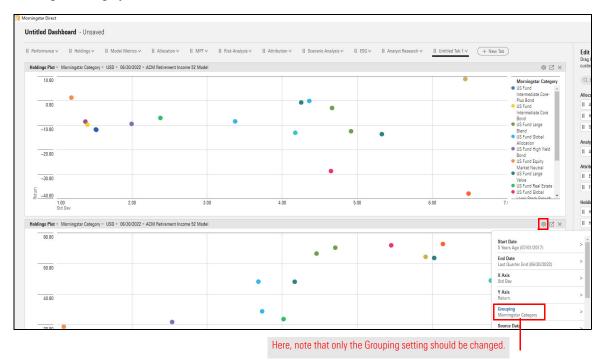
7. In the top instance of the component, click the **Component Settings** icon to change the top component settings as shown in the following table:

Change this setting	To this value
Grouping	Morningstar Category
Start Date	1 Year Ago

Note: This is why the Start Date setting was updated first via the Dashboard Settings dialog box; if the Dashboard Settings Start Date setting were changed now, it would override the one set here.



8. In the bottom component, change the **Component Settings** so **Grouping** is also set to **Morningstar Category**.

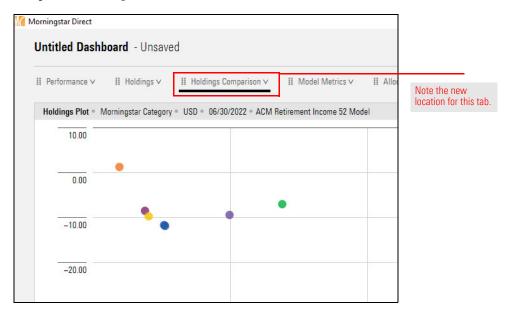


9. To give the tab a more meaningful name, click the arrow on the Untitled Tab 1, then select **Rename**.



10. Name the tab **Holdings Comparison**, then click **Save**.

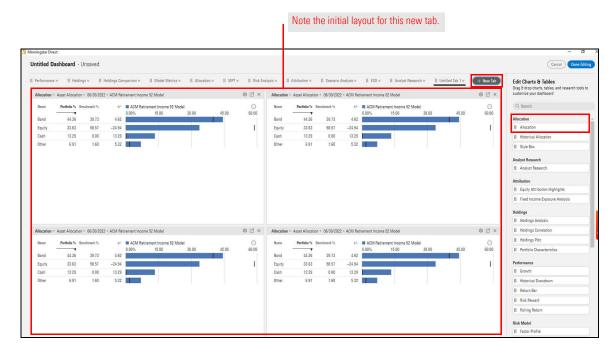
11. Use the handle to the left of the Holdings Comparison tab's name to **drag-and-drop** it to the right of the **Holdings** tab.



The Allocation tab has one instance of the Allocation component; it is set to show broad asset class data for the model. This component, however, can show much more than just asset class data. This exercise shows how to add four instances of the Allocation component to a new tab, with each one showing a different piece of information. Do the following:

Exercise 10: Add a tab for Allocation data

- 1. Click + New Tab.
- 2. **Drag-and-drop** four **Allocation** components so two components are in two columns.



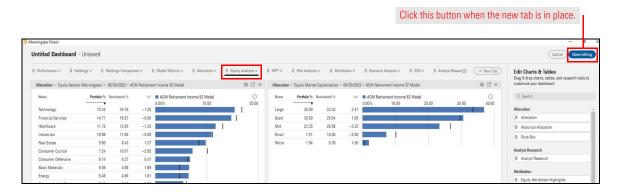


3. Use the Component Settings icon to change the **Grouping** setting on each component as shown in the following table:

In this quadrant	Change the Grouping to
Top Left	Equity Sectors (Morningstar)
Top Right	Equity Market Capitalization
Bottom Left	Equity Regional Exposure
Bottom Right	Equity Country Exposure



- 4. Rename the new tab Equity Analysis.
- 5. **Drag-and-drop** the Equity Analysis tab to the right of the **Allocation** tab.
- 6. Click Done Editing

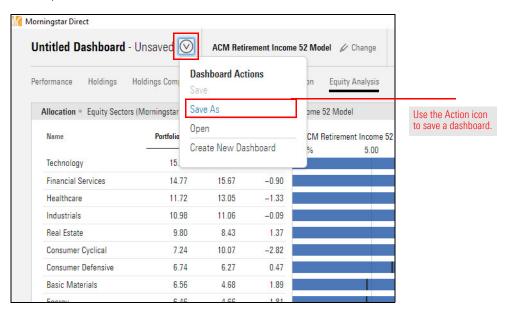




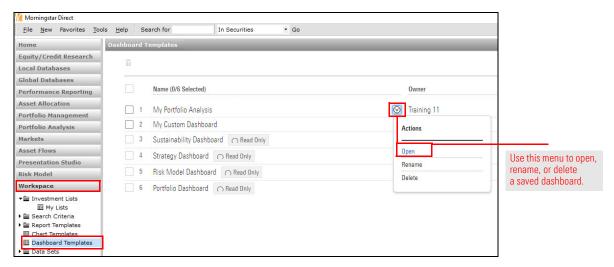
Now that the dashboard has been configured as desired, the last step is to save it so the changes are preserved. This exercise also shows how to re-open the dashboard from the Workspace module. Do the following:

Exercise 11: Save and reopen a dashboard

1. At the top of the dashboard, click the **Action** icon, then select **Save As**.



- 2. Name the dashboard **My Portfolio Analysis**, then click **Save**.
- 3. **Close** the dashboard window.
- 4. Saved dashboards can be reused and updated as necessary to investigate the same or different models or investments. To retrieve a saved dashboard, be sure the **Workspace** module is selected. Select the **Dashboard Templates** page.
- 5. **Hover the cursor** over the dashboard you would like to access. then click **Action** > **Open**. The Find Investments dialog box opens.



- 6. **Search** for and **select** the name of the model or investment to display in the dashboard.
- 7. Click **OK** to close the dialog box and open the dashboard.

