Using the Custom Database in Morningstar Direct

Onboarding Guide





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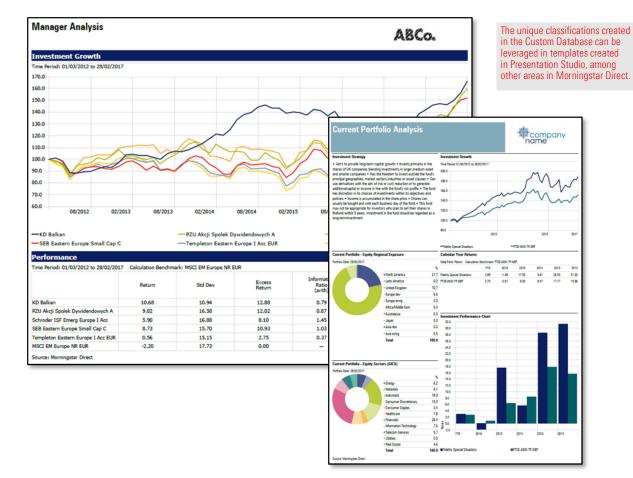
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Using the Custom Database in Morningstar DirectSM

The Custom Database allows Morningstar DirectSM users to create and import custom data for use in the analysis of investments. Custom data can also be used on reports created in Presentation Studio and as grouping options in the Performance Reporting, Equity Attribution, and Total Portfolio Attribution capabilities.

This guide shows users how to work with both discrete and time series custom data points, how to use the import function to bring in custom classification data (as an alternative to manually creating this content), and how to find and use this data within Morningstar Direct.





Understanding Basic Information about the Custom Database

Before beginning exercises where custom data will be created, it will help to cover some basic knowledge about this capability. This section covers the following topics to orient new users to this part of the application:

- ▶ where to find the Custom Database in Morningstar Direct (page 5)
- where else in the application users can leverage the custom data points they create (page 5), and
- ► the types of data points users can create in the Custom Database (page 6).

The Custom Database is located in the Workspace module. It allows Morningstar Direct users to create custom data points and classifications for those data points to incorporate in their data sets, performance reports and Presentation Studio templates, amongst other areas. Data points can be created and then updated manually, or via an import function (for most data points).

The following levels are available for the Custom Database:

- Firm-Level database: a Morningstar Direct user can be granted read-write access to create and maintain custom data points which are available as read-only access to all other Morningstar Direct users within their company.
- ► My Database: a personal custom database only for the Morningstar user.

Custom data can be used in the following modules:

- ► Workspace
- ► Performance Reporting
- ► Presentation Studio
- Morningstar Excel Add-In, and
- ► Total Portfolio Attribution (for grouping options).

Custom Database found?

Where is the

Overview

Where can custom data points be used in Morningstar Direct?

The following table provides a description of the various custom discrete data points users can create:

What types of custom data points can be created?

Data Point	Description
Extend Text	Free text, up to 250 characters
Date	Displays a date
Numeric	Displays numbers
Indicator	Five characters maximum; can be alpha, numerical, or alphanumerical
Free Text	Free text, up to 50 characters
Category	Classification; can be displayed as a data point in Workspace, Performance Reporting, Presentation Studio, or used as a grouping function in Performance Reporting or Total Portfolio Attribution
Benchmark ID	The Morningstar Security ID of an index from the Morningstar database to be assigned to a fund. This can then be selected as a calculation benchmark in Performance Reporting, or either a display or calculation benchmark in Presentation Studio.
Group Overwrite	Used to overwrite an existing grouping, such as Morningstar Category; this overwrites the Display Grouping in Performance Reporting.
Morningstar Direct User	Select a Morningstar Direct user in your company to whom funds are assigned
Grouping	Assign a security to an index or another security; use this for grouping options in Performance Reporting, for instance.

The following table shows how frequently the various custom historical time series data points can be updated:

Data Point	Frequency	Notes
Free Text	Daily	Can be displayed only in the Time Series
Numeric	Monthly	chart and table in Presentation Studio, or in Workspace and Performance Reporting
Price	Quarterly	in the grid view.
Return	Yearly	These historical data points can be imported.
Composition	Daily	These can be used only with the pie chart
	Monthly	in Presentation Studio.
	Quarterly	The data must be entered manually; no import function is available.
	Yearly	

Creating and Assigning Values to Custom Data Points

When beginning to work with custom data in Morningstar Direct, users need to take **Overview** the following steps:

- 1. Create the data points to be used within Morningstar Direct, and
- 2. Assign values to those custom data points for specific investments. Values can be manually assigned or via import (for most data points).

This section covers the following exercises:

- ► Manually creating discrete custom data points (Exercise 1 on page 8)
- ► Manually assigning values for discrete custom data points (Exercise 2 on page 10)
- ► Importing values for discrete custom data points (Exercise 3 on page 12)
- ► Manually creating time series custom data points (Exercise 4 on page 17)
- Manually assigning values for time series custom data points (Exercise 5 on page 19)
- ► Importing values for discrete custom data points (Exercise 6 on page 21), and
- Working with the Composition custom data point (Exercise 7 on page 24 and Exercise 8 on page 26).

Exercise 1: Create

discrete custom data

This exercise demonstrates how to create a few custom discrete data points. A discrete data point displays only the most recent value for an investment, such as the latest rating, date, or classification a user assigns to a fund. In contrast, a time series data point can show multiple past values for an investment.

To create these custom data points, do the following:

- In the desktop edition of Morningstar Direct, select Workspace > Custom Database > My Database.
- 2. From the toolbar, click Column Management. The Column Management window opens.

Morningstar Direct				
<u>F</u> ile <u>N</u> ew Favorites <u>T</u> oo	ols <u>H</u> elp	Search for	In This View	▼ Go
Home	My Data	abase		
Equity/Credit Research	Action	🔹 🗘 Add Investme	nts 📑 Column Managen	nent 📑 Edit Da
Local Databases		Name		▲ Ticker
Global Databases				
Performance Reporting	□ 1	American Funds An	nerican Balanced A	ABALX
Asset Allocation	2	BlackRock Manager		BLDRX
Portfolio Management	<u>□</u> 3	Hartford Balanced I		HBLYX
Portfolio Analysis		MFS Aggressive Gro MFS Growth Allocat		MIAGX
Markets		MP3 Growth Allocat		MOWIX
Asset Flows				
Presentation Studio				
Risk Model Analysis				
Workspace				
▼■ Investment Lists				

3. Click Add, then select Date. A new row is added in the window.

Add 🗸 🗙 Delete 😽 🖌 🛧		
Extend Text (250 Characters)	Data Type	
Date		Select this option to cr
Numeric	Free Text	this type of custom da
Indicator	Free Text	
Free Text	Category	
Category	Benchmark ID	
Benchmark ID	Benchmark ID	
Group Overwrite	Category	
Free Text (Historical Series)	Benchmark ID	
Numeric (Historical Series)	Benchmark ID	
Price (Historical Series)		
Return (Historical Series)		
Morningstar Direct user		
Grouping		

4. Name the data point **Buy Date**.

5. Repeat steps 3-4 to create the following custom data points:

Туре	Name
Numeric	Internal Rating
Category	Classification
Free Text	Analyst Name

+/	Add - X Delete V · · *		
	Column Name	Data Type	
1	My ID	Free Text	
2	My Name	Free Text	
3	My Sector	Category	
4	My Benchmark1	Benchmark ID	
5	My Benchmark2	Benchmark ID	
6	My Grade	Category	
7	My Sector Benchmark1	Benchmark ID	
8	My Sector Benchmark2	Benchmark ID	
9	Buy Date	Date	The list of custom data points c
10	Internal Rating	Numeric	be re-organized by selecting the
11	Classification	Category	checkbox to the left of an item'
12	Analyst Name	Free Text	name and using the arrows on toolbar to change a row's posit

6. Click **OK**. The new columns appear in the grid view.

Note the new column headers here.

Morningstar Direct																				-	
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Local Databases	Г	Name					Ticker	CU	SIP	My Grad	le I	My Sector Benchmark1	My Sector Benchmark		Buy Date	Inte	rnal Rating	с	lassification	Analyst Nar	ne Creat
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>	Total: 0		Selected:	0																	

Data can now be added to the newly created custom data points. The first step is to select the investments for which data should be entered. To add investments to the grid, do the following:

Exercise 2: Manually input values for custom data points

1. From the toolbar, click **Add Investments**. The Find Investments dialog box opens.

Morningstar Direct							
<u>F</u> ile <u>N</u> ew Favorites <u>T</u> oo	ols <u>H</u> elp	Search for	In This View	▼ Go			
Home	My Datab	ase					
Equity/Credit Research	Action •	🔂 Add Investments	🞼 Column Management	📑 Edit Data	🛓 Import	🔍 Locate	Click this icon.
Local Databases		Name		Ticker	CUSIP	My Sec Benchn	
Global Databases							
Performance Reporting							
Asset Allocation							
Portfolio Management							
Portfolio Analysis							
Markets							
Asset Flows							
Presentation Studio							
Risk Model Analysis							
Workspace							

- 2. A specific investment will be used for this exercise. Do the following:
 - A. Search for BlackRock Managed Income, then click Go.
 - B. Select the K share class of the fund, then click Add.
 - C. Click **OK** to return to the grid view.

Kind Investments				×	
Within	Universes	O My Lists	O My Searches		
	Open End Funds		~		
Find By	Name 💉		Contains urviving Investment	s	
	BlackRock Manage	d Income		Go	Search for the fund
Available Records					by name, then click Go.
Total records: 4					
Jump to record name:	BlackRock Manage	d Income			
BlackRock Managed In	come Institutional (U	SD,XNAS,BLDIX,Port	+Perf,RepPerf)		
BlackRock Managed In	come Investor A (US	D,XNAS,BLADX,Port-	+Perf,RepPerf)		
BlackRock Managed In	come Investor C (US	D,XNAS,BMICX,Port	+Perf,RepPerf)		
BlackRock Managed In	come K (USD,XNAS,	BLDRX,Port+Perf,Old	est,RepPerf)		
					Select the K share class for the fund, then click Add.
		Add	Add All		
Selected Records		L			
Total records: 1					
BlackRock Managed In	come K (USD,XNAS,	BLDRX,Port+Perf,Old	est,RepPerf)	*	
				^	
				*	
				*	
		Remove	Remove All		
Help			ОК	Cancel	

3. Click in each custom data cell and enter the information from the following table:

For this custom data point	Enter this value
Buy Date	05/14/2014
Internal Rating	5
Classification	Cautious Allocation
Analyst Name	John Smith

4. Click **Save**. The data has now been saved.

					icon to s m data e						
Morningstar Direct											- 0
<u>File N</u> ew Favorites <u>Too</u>	ols <u>H</u> elp	Search for	In This View	• Go							Send us feedb
Home	My Dat	abase				_					
Equity/Credit Research	Action	Add Investments	🗄 Column Management	😼 Edit Data	🛃 Import	🔍 Locate 🛛 拱 S	ave 🟦 Exp	ort 🗸 🛛 🧔 Refre	esh		
Local Databases	Γ	Name		Ticker	CUSIP	My Sector Benchmark1	My Sector Benchmark	Buy Date	Internal Rating	Classification	Analyst Name
Global Databases						Denchmarki	2				
Performance Reporting	□ 1	BlackRock Managed In	come K			୍	্	5 /14/2014	5.0000000	Cautious Allocation	John Smith
Asset Allocation											
Portfolio Management											
Portfolio Analysis											

With the Custom Database, users can also bring in custom discrete data points via an import from a Microsoft[®] Excel[®] file. The file in question requires the identifier of the relevant securities and the data in separate columns, as in the following example:

Exercise 3: Import data for discrete data points

A	В	С	D	E	F	G
1 Name	Ticker	Benchmark	Asset Class	Analyst Name	Internal Rating	Buy Date
2 American Funds American Balanced A	ABALX	XIUSA04G92	Moderate Allocation	Markus Oates	6	07/25/2014
3 BlackRock Managed Income K	BLDRX	XIUSA000MC	Conservative Allocation	Charles MacDonald	7	7/24/2013
4 Hartford Balanced Income Y	HBLYX	XIUSA04GU0	Moderate Conservative Allocation	John Smith	5	5/14/2014
5 MFS Aggressive Growth Allocation I	MIAGX	XIUSA04G92	Aggressive Allocation	Charles MacDonald	4	6/4/2018
6 MFS Growth Allocation I	MGWIX	XIUSA04G92	Moderate Aggressive Allocation	Andre Dupont	6	9/29/2015
_					-	

The following table explains the columns used in this exercise:

This column	Was included because
Name	The Name column is not compulsory for an import and is purely informational here
Ticker	An identifier is compulsory for an import, which is why Ticker is included here
	Note: FundID, ISIN or CUSIP could also be used as identifiers
Benchmark	The SecID (Morningstar Security ID) of a benchmark to be assigned to a fund will be included
Asset Class	Each fund needs to be assigned to an asset class
Analyst Name	A made-up name of an analyst at your firm responsible for covering each fund will be assigned
Internal Rating	A made-up rating needs to be assigned to each fund
Buy Date	A buy date for each fund will be assigned

Over time, as custom discrete data points are created, columns can be added or removed from the sample import file. When importing, users can choose to import all columns or only specific ones. To proceed with the import exercise, do the following:

- 1. Download the Excel file used in this exercise.
- 2. In Morningstar Direct, from the toolbar on the **My Database** page, click **Import**. The Import dialog box opens.

Morningstar Direct								
<u>F</u> ile <u>N</u> ew Favorites <u>T</u> oo	ols <u>H</u> elp	Search for	In This View	•	Go			
Home	My Data	ibase						
Equity/Credit Research	Action	- 🗘 Add Investments	🕞 Column Management	F≩ E	dit Data	🛓 Import	🔍 Locate	Click
Local Databases	Γ	Name		▲ Tic	cer	CUSIP	My Sec Benchn	
Global Databases								
Performance Reporting	□ 1	BlackRock Managed In	come K					
Asset Allocation								
Portfolio Management								
Portfolio Analysis								
Markets								
Asset Flows								
Presentation Studio								
Risk Model Analysis								
Workspace								

- 3. To the right of the File Name field, click the **magnifying glass** icon to select the Excel file downloaded in step 1.
- 4. Confirm the Universe field is set to **My Database**, and the Custom Data Type field is set to **Current Data**.
- 5. Use the following table to map the columns on the left to the columns on the right:

This Custom Security Data Point field	Should be matched to this Import File Column Definition
Security ID	Column B (Ticker)
Security Name	Column A (Name)
Buy Date	Column G (Buy Date)
My Sector Benchmark1	Column C (Benchmark)
Classification	Column D (Asset Class)
Analyst Name	Column E (Analyst Name)
Internal Rating	Column F (Internal Rating)

Import - Morningstar Direct					Х	
Custom Database Please browse to the locat The "Custom Security Dat Database" grid. If you wou Management" area of you select the correct target u correspond to your data so start the import process of	a Points" correspon uld like to add a ner r "Custom Databas niverse for your im ource file in the "Im r Cancel to exit.	nd to the columns y w data point, pleas e" grid prior to imp ported data. Finally nport File Column [rou have built in y e add it in the "Co porting. Please ma y, select the colum Definition" area. C	our "Custo olumn ke sure yo nns that dick OK to	ou	
File Name		Downloads\Sample	eImportFile.xlsx		Q	
Date Format	MM/DD/YYYY	~				
Security ID Type	Auto Detect	~				
Header Row			_			
Universe	My Database	~				
Custom Data Type	Current Data	~				
Custom Security Data Poin	nt	Import File Colur	nn Definition		^	
Security ID		Column B (Ticke	r)			Making a selection for
Symbol		Select			this field is required.	
Security Name		Select		~]	this field is required.
Buy Date		Select				
My ID		Select				
My Name		Select				
My Sector		Select				
My Benchmark1		Select				
My Benchmark1 Select My Benchmark2 Select My Grade Select My Sector Benchmark1 Select						
My Sector Benchmark1		Select			×	
Help			Import	Cancel		

6. Leave the rest of the rows set to "Select...". Click **Import**. The Import dialog box closes, and the Import blotter opens. Check the data prior to saving it to the Custom Database.

Import - Morningstar Direct				×	
Custom Database					
Please browse to the loca The "Custom Security Da Database" grid. If you wo Management" area of you select the correct target u correspond to your data s start the import process of	ta Points" correspor ould like to add a ne ur "Custom Databas universe for your im source file in the "In	d to the columns you ha w data point, please add e" grid prior to importing ported data. Finally, sele	ve built in your it in the "Colur p. Please make of the columns	"Custom nn sure you that	
File Name	C:\Users\clowry\	Downloads\SampleImpo	rtFile.xlsx	2	
Date Format	MM/DD/YYYY	~			
Security ID Type	Auto Detect	\sim			
Header Row					
Universe	My Database	~			
Custom Data Type	Current Data	~			
Custom Security Data Po	int	Import File Column Def	inition	^	
My Name		Select			
My Sector		Select			
My Benchmark1		Select			
My Benchmark2		Select			
My Grade		Select			
My Sector Benchmark1		Select			
My Sector Benchmark2 Select					
Classification Column D (Asset Class)					
Analyst Name Internal Rating		Column E (Analyst Nar Column F (Internal Rat			
		Column r (Internal Rat	ing)	*	Click this button after all fields are mapped for importing.
Help		I	mport (Cancel	

7. Click **Post** to submit it.

🚺 Import - Morningstar Direct - Training 11						-		×
Eile 📑 Edit Definition Master	Search for			• Go				
Send us feedback								
Blotter	Custom	Data						
▼ Securities	Action	• 🖪 Si	ave 🟦 Export 🗸	🖨 Print 🔛	Post 🗭 Help			Click this icon to post
III Morningstar-tracked Securities (0/5) III New User-Defined Securities (0/0) III Existing User-Defined Securities (0/0)	Γ	Status	Security ID	Buy Date	Classification	Analyst Name	Internal R	the imported data.
Existing Portfolio Management Investments (0/0)	□ 1		ABALX	7 /25/2014	Moderate Alloc	Markus Oates	6.00	
E Custom Data (0/5)	□ 2		BLDRX	7 /24/2013	Conservative	Charles MacDo	7.00	
	□ 3		HBLYX	5 /14/2014	Moderate Cons	John Smith	5.00	
	□ 4		MIAGX	6 / 4 /2018	Aggressive All	Charles MacDo	4.00	
	5		MGWIX	9 /29/2015	Moderate Aggr	Andre Dupont	6.00	

- 8. When the confirmation prompt appears, click OK.
- 9. **Close** the Import window to return to the Morningstar Direct window.

10. On the toolbar, click **Refresh**. The imported funds and their data appear in the grid.

	Click this icon to and data that w	see the row ere imported	
• Go	Go		
ent 📑 Edit Data	Edit Data 🛃 Import 🔍 Locate 📻 Sa	ave 🟦 Export -	🕸 Refresh
▲ Ticker	icker CUSIP My Sector Benchmark2	Buy Date	Internal Rating
BLDRX	LDRX 091937193 @	5 /14/2014	5.0000000

The Custom Database enables users to create custom time series data points. These data points can then be used in Presentation Studio with the Time Series charts and tables, and they can also be displayed as data in the Workspace and Performance Reporting grid views.

Exercise 4: Create custom time series data points

Note: This exercise is valid only for Free Text, Numeric, Price, and Return Historical Series data points.

This exercise shows users how to create a historical monthly internal rating data point; populating the data point follows in the next exercise. Do the following:

1. The **My Database** page within the Workspace module should be selected. From the toolbar, click **Column Management**. The Column Management dialog box opens.

🚺 Morningstar Direct				
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Home	My Data	base		
Equity/Credit Research	Action	Add Investments	F Column Management	🖶 Edit Dat
Local Databases		Name		Ticker
Global Databases				
Performance Reporting	□ 1	American Funds Americ	an Balanced A	ABALX
Asset Allocation	2	BlackRock Managed Inc		BLDRX
Portfolio Management		Hartford Balanced Inco		HBLYX
Portfolio Analysis	□ 4 □ 5	MFS Aggressive Growth MFS Growth Allocation 1		MIAGX
larkets	1 2	MFS Growth Allocation I		MGWIX
sset Flows				
resentation Studio				
Risk Model Analysis				
Workspace				
Investment Lists				

2. Click Add > Numeric (Historical Series) > Monthly.

Extend Text (250 Characters)	Data Type	
Date		
Numeric	Benchmark ID	
Indicator	Benchmark ID	
Free Text	Category	
Category	Date	
Benchmark ID	Numeric	
Group Overwrite	Category	
Free Text (Historical Series)	Extend Text (250 Characters)	
Numeric (Historical Series)	Daily	
Price (Historical Series)	Monthly	
Return (Historical Series)	Quarterly	Select the highlighted options
Morningstar Direct user	Yearly	
Grouping		
Composition (Historical Series)	▶	
Composition (Historical Series)		
Composition (Historical Series)		
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Composition (historical Series)	_	
Composition (Historical Series)	_	
Composition (Historical Series)	_	
Composition (historical Series)		
Composition (historical Series)	_	

- 3. Name this data point **Historical Internal Rating**.
- 4. Click OK. The data point has been added to the grid view.

File New Favorites To	ols	Help	Search for	In This View	▼ Go			S	end us feedba	ack		
Home	1	v Datal										
Equity/Credit Research	1.7	Action •		F Column Management	Edit Data	↓ Import	Q Locate	Save	t Export	& Refresh		
Local Databases	Ξ		Name		 Ticker 	CUSIP	Classifica	-	nalyst Name	Historical Inter Rating	nal	(
Performance Reporting		1	American Funds Americ	can Balanced A	ABALX	024071102	Moderate	e All M	arkus Oates			1
Asset Allocation	П	2	BlackRock Managed Inc	come K	BLDRX	091937193	Conserv	ativ C	harles MacDo	1	4	1
Portfolio Management			Hartford Balanced Income Y		HBLYX	416648210	Moderate C		hn Smith		4	
-			MFS Aggressive Growth	Allocation I	MIAGX	55273G652	Aggressi	ve C	harles MacDo		4	
Portfolio Analysis		5	MFS Growth Allocation I		MGWIX	55273G694	Moderate	e Ag 🛛 Ai	ndre Dupont			1
Markets												
Asset Flows												
Presentation Studio	1											
Risk Model Analysis	1											
Workspace												
 ✓ Investment Lists Im My Lists ✓ Search Criteria ✓ Report Templates 												
Chart Templates												

5. Click Save. Values for this custom data point will be entered in the next exercise.

Custom time series data points have an icon within the cell; users can easily click this icon to input data manually, or use the Import function to fill in the data. This exercise shows users how to input the historical monthly internal ratings manually.

Exercise 5: Input data for time series custom data points

To manually enter data for a historical time series data point, do the following:

1. For the American Funds American Balanced A fund, **double-click** the **icon** in the Historical Internal Rating column. The Historical Data Points dialog box opens.

<u>File N</u> ew Favorites <u>T</u> o	ools <u>H</u> elp	Search for	In This View	▼ Go			Send us feedba	ack	
Home	My Data	base							
Equity/Credit Research	Action •	Add Investments	🚌 Column Management	📑 Edit Data	🛃 Import	🔍 Locate 🛛 📻 Sa	ve 🟦 Export -	🕸 Refresh	
Local Databases		Name		Ticker	CUSIP	Classification	Analyst Name	Historical Internal Rating	0
Global Databases								Kating	
Performance Reporting	□ 1	American Funds Americ	an Balanced A	ABALX	024071102	Moderate All	Markus Oates		a 1
Asset Allocation	-	BlackRock Managed Inc		BLDRX	091937193	Conservativ	Charles MacDo		a 1
Portfolio Management	1	Hartford Balanced Incor		HBLYX	416648210		John Smith		e 1
Portfolio Analysis	-	MFS Aggressive Growth		MIAGX	55273G652	Aggressive	Charles MacDo		a 1
Markets	5	MFS Growth Allocation I		MGWIX	55273G694	Moderate Ag	Andre Dupont		a 1
Asset Flows									
Presentation Studio									
Risk Model Analysis									
Workspace									
📲 Investment Lists									
🔟 My Lists									
🗎 Search Criteria									
🕨 🚞 Report Templates									
Chart Templates									

- 2. Click + Add. A row is added.
- 3. In the **Effective Date** field, type **2019-12**.
- 4. In the Historical Internal Rating field, type 5.
- 5. Click + Add three more times to enter the following values:

Effective Date	Historical Internal Rating
2019-11	6
2019-10	7
2019-09	8

+/	Add 🗙 Delete 🐻 Sa			
	Effective Date	Historical Internal Rating	Time Stamp	
1	2019-12	5.00000000		
2	2019-11	6.00000000		Be sure to add
3	2019-10	7.00000000		all four rows h
4	2019-09	8.00000000		

- 6. Click **OK** to return to the Custom Database grid view.
- 7. Click Save.

With the Custom Database, users can also import values for custom series data points from Microsoft[®] Excel[®].

Note: This method is not valid for the Composition (historical Series) data point. To see how to use the Composition data point, please refer to Exercise 7 on page 24.

The file being used as the import source requires the following columns:

- ► an identifier for each security, one below the other
- ► dates, and
- ► a value for the custom data point for each date.

See the following example:

	A	B	C	D	
1	Ticker	Date	Historical Internal Rating		
2	ABLAX	2019-12	6		Only these three columns are
	ABLAX	2019-11	5		required when importing a singl
4	ABLAX	2019-10	6		time series custom data point.
5	ABLAX	2019-9	7		
6	ABLAX	2019-8	7		
7	ABLAX	2019-7	7		
8	ABLAX	2019-6	6		
9	ABLAX	2019-5	6		
10	ABLAX	2019-4	6		
11	ABLAX	2019-3	7		
12	ABLAX	2019-2	7		
13	ABLAX	2019-1	7		
14	BLDRX	2019-12	7		
15	BLDRX	2019-11	8		
16	BLDRX	2019-10	8		
17	BLDRX	2019-9	8		
18	BLDRX	2019-8	7		
19	BLDRX	2019-7	7		
20	BLDRX	2019-6	7		
21	BLDRX	2019-5	6		
22	BLDRX	2019-4	6		
23	BLDRX	2019-3	6		
24	BLDRX	2019-2	5		
25	BLDRX	2019-1	5		
26	HBLYX	2019-12	5		
27	HBLYX	2019-11	6		
28	HBLYX	2019-10	7		
29	HBLYX	2019-9	8		
30	HBLYX	2019-8	8		
31	HBLYX	2019-7	8		
32	HBLYX	2019-6	8		
33	HBLYX	2019-5	7		
34	HBLYX	2019-4	7		
	HBLYX	2019-3	6		
36	HBLYX	2019-2	6		
37	HBLYX	2019-1	6		
38	MIAGX	2019-12	4		
	MIAGX	2019-11	4		
	LUACY	2010 10			
	<	Sheet1	\oplus		

Exercise 6: Import data for custom time series data points

le

To import custom time series data, do the following:

- 1. Download the Excel file used in this exercise.
- 2. In Morningstar Direct, from the toolbar on the **My Database** page, click **Import**. The Import dialog box opens.
- 3. To the right of the File Name field, click the **magnifying glass** icon to select the Excel file downloaded in step 1.
- 4. Confirm the Universe field is set to **My Database**, and the Custom Data Type field is set to **Current Data**.
 - Note: Leave the Security ID Type set to Auto Detect to ensure multiple types of identifiers can be recognized under the same column.
- 5. Set the Date Format to YYYY-MM-DD, to match the Microsoft® Excel® file.
- 6. The Universe field should read My Database.
- 7. Set the Custom Data Type field to Historical Series Monthly.
- 8. Map the **Date** column in the Excel file to the **Effective Date** data point, and the **Security ID** and **Historical Internal Rating** data points to their respective columns.

Please browse to the location of your data source file in the "File Name" selection box below. The "Custom Security Data Points" correspond to the columns you have built in your "Custom Database" grid. If you would like to add a new data point, please add it in the "Column Management" area of your "Custom Database" grid prior to importing. Please make sure you select the correct target universe for your imported data. Finally, select the columns that correspond to your data source file in the "Import File Column Definition" area. Click OK to start the import process or Cancel to exit. File Name V:\SHARE\SALES\ISS\Direct\Direct Training Program\Training Date Format YYYY-MM-DD Security ID Type Auto Detect Header Row	The "Custom Security Data Point Database" grid. If you would like Management" area of your "Cust select the correct target universe correspond to your data source f start the import process or Cance File Name V:\SI Date Format YYYY Security ID Type Auto Image: Security ID Type Auto Header Row Universe My Di Custom Data Type Histor Custom Security Data Point Security ID Symbol Security Name Effective Date	" correspond to the columns y to add a new data point, pleas m Database" grid prior to imp for your imported data. Finally e in the "Import File Column I I to exit. ARE\SALES\ISS\Direct\Direct MM-DD	you have built in y se add it in the "C porting. Please ma y, select the colur Definition" area. (your "Custo Column ake sure yo mns that Click OK to	om Du	
The "Custom Security Data Points" correspond to the columns you have built in your "Custom Database" grid. If you would like to add a new data point, please add it in the "Column Management" area of your "Custom Database" grid prior to importing. Please make sure you select the correct target universe for your imported data. Finally, select the columns that correspond to your data source file in the "Import File Column Definition" area. Click OK to start the import process or Cancel to exit. File Name V:\SHARE\SALES\ISS\Direct\Direct Training Program\Training @ Date Format YYYY-MM-DD V Security ID Type Auto Detect V G Header Row Universe My Database V Custom Data Type Historical Series - Monthly V Custom Security Data Point Import File Column Definition Select Security ID Security ID Select Security ID Security Name Select Effective Date Column B (Date)	The "Custom Security Data Point Database" grid. If you would like Management" area of your "Cust select the correct target universe correspond to your data source f start the import process or Cance File Name V:\SI Date Format YYYY Security ID Type Auto Universe My Di Custom Data Type Histor Custom Security Data Point Security ID Symbol Security Name Effective Date	" correspond to the columns y to add a new data point, pleas m Database" grid prior to imp for your imported data. Finally e in the "Import File Column I I to exit. ARE\SALES\ISS\Direct\Direct MM-DD	you have built in y se add it in the "C porting. Please ma y, select the colur Definition" area. (your "Custo Column ake sure yo mns that Click OK to	om Du	
Date Format YYYY-MM-DD Security ID Type Auto Detect Header Row Universe Universe My Database Custom Data Type Historical Series - Monthly Custom Security Data Point Import File Column Definition Security ID Column A (Ticker) Symbol Select Security Name Select Effective Date Column B (Date)	Date Format YYYY- Security ID Type Auto I Header Row Universe My Di Custom Data Type Histor Custom Security Data Point Security ID Symbol Security Name Effective Date	MM-DD ~	t Training Program	n\Traininı	Q,	
Security ID Type Auto Detect Header Row Universe My Database Custom Data Type Historical Series - Monthly Custom Security Data Point Import File Column Definition Note the mappin Security ID Security ID Column A (Ticker) Symbol Security Name Select Effective Date Column B (Date)	Security ID Type Auto Header Row Universe My Di Custom Data Type Histor Custom Security Data Point Security ID Symbol Security Name Effective Date		7			
Weader Row Universe My Database Custom Data Type Historical Series - Monthly Custom Security Data Point Import File Column Definition Security ID Column A (Ticker) Symbol Select Security Name Select Effective Date Column B (Date)	Weader Row Universe My Di Custom Data Type Histor Custom Security Data Point Security ID Symbol Security Name Effective Date)etect				
Universe My Database ✓ Custom Data Type Historical Series - Monthly ✓ Custom Security Data Point Import File Column Definition Note the mappin Security ID Column A (Ticker) Symbol Select Security Name Select Effective Date Column B (Date)	Universe My Di Custom Data Type Histor Custom Security Data Point Security ID Symbol Security Name Effective Date	viciti v				
Custom Data Type Historical Series - Monthly Custom Security Data Point Import File Column Definition Security ID Column A (Ticker) Symbol Select Security Name Select Effective Date Column B (Date)	Custom Data Type Histor Custom Security Data Point Security ID Symbol Security Name Effective Date					
Custom Security Data Point Import File Column Definition Security ID Column A (Ticker) Symbol Select Security Name Select Effective Date Column B (Date)	Custom Security Data Point Security ID Symbol Security Name Effective Date	tabase 🗸 🗸				
Security ID Column A (Ticker) Symbol Select Security Name Select Effective Date Column B (Date)	Security ID Symbol Security Name Effective Date	cal Series - Monthly 🛛 🗸				
Security ID Column A (Ticker) Symbol Select Security Name Select Effective Date Column B (Date)	Security ID Symbol Security Name Effective Date					
Security ID Column A (Ticker) Symbol Select Security Name Select Effective Date Column B (Date)	Symbol Security Name Effective Date	Import File Colum	nn Definition			
Security ID Column A (Ticker) Symbol Select Security Name Select Effective Date Column B (Date)	Symbol Security Name Effective Date					
Security Name Select Effective Date Column B (Date)	Security Name Effective Date	Column A (Ticke	er)			Denny used ne
Effective Date Column B (Date)	Effective Date	Select				
		Select				
Historical Internal Rating Column C (Historical Internal Rating)	Historical Internal Rating	Column B (Date))			
		Column C (Histor	rical Internal Rati	ing)		
	1					
	1					
	Help					

9. For the rest of the custom data points, map only the data to be updated; leave the other fields as "Select...".

- 10. Click **Import**. The Import dialog box closes, and the Import blotter opens. Check the data prior to saving it to the Custom Database.
- 11. Click **Post** to submit the data.

Minport - Morningstar Direct - Training 11						-		
Eile 📑 Edit Definition Master		Sea	arch for			Go		
Send us feedback								
Blotter	Custom	Data						
 ✓ Securities Morningstar-tracked Securities (0/5) New User-Defined Securities (0/0) Existing User-Defined Securities (0/0) 	Action		ave 🟦 Export - Security ID	Buy Date		Analyst Name	Internal Rating	Click this icon to pos the imported data.
 Existing Oser-Defined Securities (0/0) Existing Portfolio Management Investments (0/0) 			ABALX	7 /25/2014	Moderate Alloc			
🔟 Custom Data (0/5)			BLDRX HBLYX	7 /24/2013 5 /14/2014	Conservative Moderate Cons		7.00 5.00	
	□ 4		MIAGX	6 / 4 /2018	Aggressive All	Charles MacDo	4.00	
	5		MGWIX	9 /29/2015	Moderate Aggr	Andre Dupont	6.00	

- 12. When the confirmation prompt appears, click **OK**.
- 13. Close the Import window to return to the Morningstar Direct window.
- 14. On the toolbar, click **Refresh**. The imported funds and their data appear in the grid.

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Morningstar Direct									
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Local Databases	Г	Name		▲ Ticker	CUSIP	My Sector Benchmark		y Date	Internal Rating
Global Databases							-		
Performance Reporting	□ 1	BlackRock Managed Inc	come K	BLDRX	091937193		۵ ا	14/2014	5.0000000
Asset Allocation									
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Asset Flows									
Presentation Studio									
Risk Model Analysis									
Workspace									
 ✓ Investment Lists Im My Lists Im Search Criteria Im Report Templates 									

The Composition data point is the last custom time series data point available in the Custom Database is the Composition data point. This data point can be used to input a set of custom weightings among asset classes for use with the Pie Chart component in Presentation Studio templates.

Despite being a historical series data point, no import function exists for Composition data, and values need to be inputted manually. This exercise shows users how to enter the historical monthly asset allocation breakdown for the American Funds American Balanced A fund. The process involves the following two steps:

- 1. Assign a date for the composition breakdown.
- 2. Name the asset classes for the composition, and assign a weight to each.

This exercise shows users how to create a historical Composition data point; populating the data point follows in the next exercise. Do the following:

1. The **My Database** page within the Workspace module should be selected. From the toolbar, click **Column Management**. The Column Management dialog box opens.

🬔 Morningstar Direct				
<u>F</u> ile <u>N</u> ew Favorites <u>T</u> o	ols <u>H</u> elp	Search for	In This View	• Go
Home	My Data	abase		
Equity/Credit Research	Action	🔹 🗘 Add Investments	🕞 Column Management	📑 Edit Dal
Local Databases	Γ	Name		▲ Ticker
Global Databases				
Performance Reporting	□ 1	American Funds Ameri	can Balanced A	ABALX
Asset Allocation	2	BlackRock Managed In		BLDRX
Portfolio Management	<u>□</u> 3	Hartford Balanced Inco		HBLYX
Portfolio Analysis		MFS Aggressive Growth MFS Growth Allocation		MIAGX
Markets	5	MFS Growth Allocation	1	MGWIX
Asset Flows				
Presentation Studio				
Risk Model Analysis				
Workspace				
▼■ Investment Lists				

Exercise 7: Add a custom Composition data point

2. Click Add > Composition (Historical Series) > Monthly.

Extend Text (250 Characters) Date	Data Type	
Numeric	Free Text	
Indicator	Free Text	
Free Text	Category	
Category	Benchmark ID	
Benchmark ID	Benchmark ID	
Group Overwrite	Category	
Free Text (Historical Series)	Benchmark ID	
Numeric (Historical Series)	Benchmark ID	
Price (Historical Series)	Date	
Return (Historical Series)	Numeric	
Morningstar Direct user	Category	
Grouping	Free Text	Select the highlighted option
Composition (Historical Series)	Daily rical Series) - Monthly	
	Monthly	
	Quarterly	
	Yearly	

- 3. Name this data point **Allocation Breakdown**.
- 4. Click **OK**. The data point has been added to the grid view.

						Note the	ne	w custo	ım data p	oint	here.		
Morningstar Direct										_		:	×
<u>F</u> ile <u>N</u> ew Favorites <u>T</u> oo	ls <u>H</u> elp	Search for	In This View		• Go				Se Se	nd u	s feedback		
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Equity/Credit Research	Action •	Add Investments	🖶 Column Management	F	🚡 Edit Data	🛃 Import	Q	Locate	📑 Save	Û	Export •		
Local Databases	Γ	Name		•	Ticker	CUSIP		Historica Rating	l Internal		location eakdown	٦	Crea
Global Databases										-			
Performance Reporting	□ 1	American Funds Americ	an Balanced A		ABALX	024071102		5.00	4		(D	1/20
Asset Allocation	2	BlackRock Managed Inc	ome K		BLDRX	091937193		7.00	4		•		1/20
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-	4	MFS Aggressive Growth	Allocation I		MIAGX	55273G652		4.00		Ĉ	(D	1/20
Portfolio Analysis	5	MFS Growth Allocation I			MGWIX	55273G694		6.00	4	Ē.	•	D	1/20
Markets													
Asset Flows													
Presentation Studio													
Risk Model Analysis													

5. Click Save. Values for this custom data point will be entered in the next exercise.

Now that the Composition time series data point has been added to the Custom Database, the data can be entered. To input the data, do the following:

Exercise 8: Enter data for a Composition custom data point

1. For the BlackRock Managed Income K fund **double-click** the **pie chart icon** in the Allocation Breakdown column. The Custom Composition Data window opens.

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<u>File N</u> ew Favorites <u>T</u> o	ols <u>H</u> elp	Search for	In This View	• Go			🖾 Se	nd us feedbac	k		
Home	My Data	ibase									
Equity/Credit Research	Action	- 🗘 Add Investments	🖏 Column Management	📑 Edit Data	🛃 Import	🔍 Locate	Save	🟦 Export 🗸	\$	Refresh	
Local Databases		Name		 Ticker 	CUSIP	Historica Rating	Internal	Allocation		Create On	
Global Databases						Rading		Dieakdown			
Performance Reporting	□ 1	American Funds Americ	an Balanced A	ABALX	024071102	5.00				1/20/2020	
Asset Allocation	□ 2	BlackRock Managed Inc		BLDRX	091937193	7.00			_	1/20/2020	D. I.I. P. I. M. I.
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Portfolio Analysis	-	MFS Aggressive Growth		MIAGX	55273G652				-	1/20/2020	_
Markets	5	MFS Growth Allocation I		MGWIX	55273G694	6.00			•	1/20/2020	
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Risk Model Analysis	1										
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✓ Investment Lists Investment Lists											
🕨 🚞 Search Criteria											
Report Templates											

- 2. The first step is to enter a date for the composition data. To the right of the As-of-Date field, click **Add**. The New As-of-Date dialog box opens.
- 3. In the New-As-of-Date field, select 12/31/2019.
- 4. From the Create Using drop-down field, select Blank Composition.

Custom C	composition Dat	a					×	
Data Point N	ame	Alloc	cation Breakdown					
As-of Date			~	Add	Delete]		Click this button to add a
1	Solution State	X D	elete	Weighting 9	% Color			date for an investment's custom composition.
	-					×	^	
	New As-of Date					×		
	v As-of Date eate Using			.			T	Be sure the correct values are entered here.
	As-of Date		Blank Composition	~				
				01	K Ca	ncel		
							*	
Total		<		0.00000			>	
Help					ок	Car	ncel	

5. Click **OK**.

6. The next step is to define the asset classes for the composition date, both in terms of the names of the asset classes, and the weighting to be assigned to each one. In the Custom Composition Data dialog box, click the **Add** icon five times.

Cust	tom Composition I	Data		_	×	
Data Po	oint Name	Allocation Breakdow	'n			
As-of D	Date	12/31/2019	~ Add	Delete		
*	▲ ✔ ¥ 🔂 Ac	dd 🗙 Delete	Weighting %	Color		Click this icon to add the asset classes for the fund's composition.
					~	

7. Use the following table to input the data for 12/31/2019:

Asset Class	Weighting
Cash	0.60
Stock	95.30
Bond	0.85
Derivative	1.20
Futures	2.05

Note: Use the magnifying glass icon to the right of each asset class to assign a certain color to an asset class.

I Cash O.6 Value I 2 Stock 95.3 Image: Cash and the state of	Weighting % Color 0.6 95.3
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2 Stock 95.3	95.3
□ 3 Bond 0.85 🔍	0.85 Q 1.2 Q
	1.2
T 4 Derivative 1.2	
5 Futures 2.05	2.05

8. To enter the composition for a previous month, next to the As-of-Date field, click **Add**. The New As-of-Date dialog box opens.

Custom C	Composition Da	ta					×	
Data Point N	lame	Allocation Break	lown]		
As-of Date		12/31/2019	~	Add	Delete			Click this button to add
* * *	🔸 🕹 Add	🗙 Delete						date for an investment's custom composition.
Com	position			Weighting %	Color			
□ 1 Cash	h			0.6		2	^	
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3 Bond	d			0.85		2		
🗌 4 🛛 Deriv	vative			1.2		2		
5 Futu	res			2.05		2		

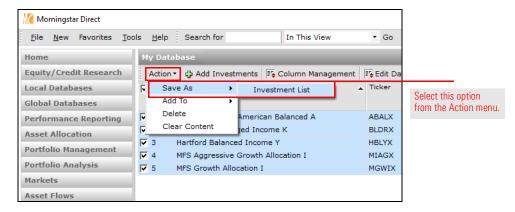
- 9. From the New-As-of-Date field, select 11/30/2019.
- 10. Be sure the **Create Using** drop-down field has **Existing Composition** selected.
- 11. Be sure the **Use As-of-Date** drop-down field has **12/31/2019** selected.

Mew As-of Date	×	
New As-of Date	11/30/2019	Note the value in each field here.
Create Using	Existing Composition ~	
Use As-of Date	12/31/2019 ~	
	OK Cancel	
	OR	

- 12. Click **OK**.
- 13. Use the following table to input the data for 11/30/2019:

Asset Class	Weighting
Cash	0.50
Stock	95.30
Bond	0.85
Derivative	1.30
Futures	2.05

- 14. Click **OK**. The date of the most recent composition data now appears in the grid view.
- 15. From the toolbar, click Save.
- 16. Check the Select all box to highlight all investments.
- 17. From the Action menu, select Save As > Investment List.



18. Name the list **Custom Database**. The list opens in the My List page.

Leveraging Custom Data in Other Modules

This section explains how to leverage custom data in the following modules:

- ► Workspace (Exercise 9 on page 30)
- ► Performance Reporting (Exercise 10 on page 32)
- ► Morningstar Excel Add-In (begins with Exercise 14 on page 42), and
- ► Presentation Studio (Exercise 15 on page 43).

This exercise explains where to leverage custom data points in the Workspace module. All discrete data points can be displayed in the grid view in Workspace on both the Investment Lists and Search Criteria pages. To see this, do the following: Exercise 9: View custom data in the Workspace module

Overview

- The Workspace module should be selected. If the Custom Database list is not already open, select Investment Lists > My Lists.
- 2. Open the Custom Database list.

Morningstar Direct				
<u>F</u> ile <u>N</u> ew Favorites <u>T</u> o	ools <u>H</u> el	Search for In This View	▪ Go	
Home	My Lis	sts Custom Database		Be sure this list is open
Equity/Credit Research	Actio	on 🔹 🐟 🐱 😵 View Snapshot		
Local Databases	🤣 R	efresh		
Global Databases		Name	Base	
Performance Reporting			Currency	
Asset Allocation	□ 1	American Funds American Balanced A	US Dollar	
Portfolio Management	2	BlackRock Managed Income K	US Dollar	
Portfolio Analysis	□ 3	Hartford Balanced Income Y	US Dollar	
Markets	□ 4	MFS Aggressive Growth Allocation I	US Dollar	
Asset Flows	5	MFS Growth Allocation I	US Dollar	
Presentation Studio				
Risk Model Analysis				
Workspace				
📲 Investment Lists				
🗉 My Lists				
🕨 🚞 Search Criteria				
🕨 🚞 Report Templates				

3. Click Edit Data. The Select Data Points dialog box opens.

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<u>F</u> ile <u>N</u> ew Favorites <u>T</u> o	ols <u>H</u> elp	Search for	In This View	✓ Go			
Home	My Lis	ts Custom Database					
Equity/Credit Research	Actio	n • 🔦 🔺 🖌 😵 View	Snapshot	- 🔚 Save 🛨	Add 🐺 Edit D	ata 🛛 🐙 Sort	Click this icon to
Local Databases	🕸 Re	efresh					change the data
Global Databases Performance Reporting	Γ	Name		Base Currency	Ticker	ISIN	points being seen in the grid view.
Asset Allocation	[1	American Funds America	an Balanced A	US Dollar	ABALX	US024071	
Portfolio Management	2	BlackRock Managed Inc	ome K	US Dollar	BLDRX	US091937	
Portfolio Analysis	□ 3	Hartford Balanced Incor	ne Y	US Dollar	HBLYX	US416648	
Markets	□ 4	MFS Aggressive Growth		US Dollar	MIAGX	US55273G	
Asset Flows	5	MFS Growth Allocation I		US Dollar	MGWIX	US55273G	
Presentation Studio	1						
Risk Model Analysis	1						
Workspace							
📲 Investment Lists							

4. The Universe field should be Open End Funds, and the option button for View should be selected. From the Find Data Points By drop-down field, select My Database (Current Data).

Select Data Points			
	nen locate data points by selecting an existing general or calculation settings of a selected p		
Available Data Lists			
Universe	Open End Funds	~	
Find Data Point By	View Name containing		
	Snapshot	\sim	
Available Data Points Total Data Points: 147	Equity Country (MSCI) Fixd-Inc Calc Core Analytics Fixed-Inc Portfolio Statistics Fixed-Inc Super Sector Breakdown Fixed-Inc Primary Sector Breakdown	^	
Name Base Currency Virtual Class Ticker ISIN Global Broad Category Gr Global Category Morningstar Category Morningstar Institutional	Fixed-Inc Secondary Sector Breakdown US Fixed-Inc Sector Breakdown Fixed-Inc Sector Country Breakdown Fixed-Inc Muni Sector Exposure Fixed-Inc Regional Exposure Grixed-Inc Country Exposure Alternative Style Analysis Surveyed Currency Exposure		
Selected Data Points	Firm-level Database (Current Data) 4v Database (Current Data) Performance Attribution		
Name Base Currency Ticker ISIN Global Broad Category Gr Global Category Morningstar Category Morningstar Institutional Morningstar Rating Overa	Historical Price and Return Data Historical Fixd-Inc Calc Core Analytics Historical Portfolio Data Historical Expenses and Turnover Data Historical Rating and Rank Data Historical Cash Flow Data Historical Sustainability Firm-level Database (Historical Series)	Remove All	Select this option to see t discrete data points adde to My Custom Database.
	Save	OK Cancel Help	-

5. Click Add All.

- 6. From the Find Data Points By drop-down field, select My Database (Historical Series).
- 7. Click Add All.
 - ${\ensuremath{\,@}}$ Note: If desired, click ${\ensuremath{\textbf{Save}}}$ to name the data set.
- 8. Click **OK** to close the dialog box.
- 9. Scroll right to see the custom data points.

In Performance Reporting, users can display custom data via the Supplementary dialog box. A couple of other areas also allow users to leverage custom data points in the Performance Reporting module. In this exercise, the General Settings for the module will be configured to use the Buy Date custom data point as a start date for calculating performance. Do the following: Exercise 10: Adjust the general settings for performance reporting to use custom data points

- 1. Select the **Performance Reporting** module.
- 2. Click General Settings. The General Settings window opens.

🚺 Morningstar Direct			
<u>F</u> ile <u>N</u> ew Favorites <u>T</u> oo	ols <u>H</u> elp Search for	In Securities • Go	
Home	Folders		
Equity/Credit Research	Action 🔹 🔛 New 🙀 Genera	al Settings Quick Find	Use this icon to change
Local Databases	Name Name	▲ Folder	settings for all future
Global Databases			performance reports that are
Performance Reporting			
■ Reports			
Folders			
All Reports			
🗉 Inbox			
Archive			
Templates			
Batches			

3. The General tab should be selected. From the **Custom Date** drop-down field, select **Buy Date**.

M General Settings		\times	
Select default general settings fo	r performance reporting.		
General Grouping	Display Style Output		
Settings			
Default decimal places	2 ~		
Default currency	Base Currency ~		
Default universe	Open End Funds 🗸		
Default return type	Total Return 🗸		
Excel Version	Excel 2007 or later V		
Custom Date	Inception Date V		
Filter Settings	Inception Date ^ Performance Start Date		
Calculation Benchmark 2	 Firm-level Classifications Last Quarter End My Classifications Buy Date 		Use the Custom Date field to select this option.
Investments	×		
Keep Performance Report an	C Investment List synchronized		
Display notification when Inv			

4. Click **OK** to close the General Settings window.

To create a performance report using the holdings of the Custom Database list, do the following:

Exercise 11: Use a custom data point as a benchmark

1. The Performance Reporting module should be selected. Click **New**. The Select Investments dialog box opens.

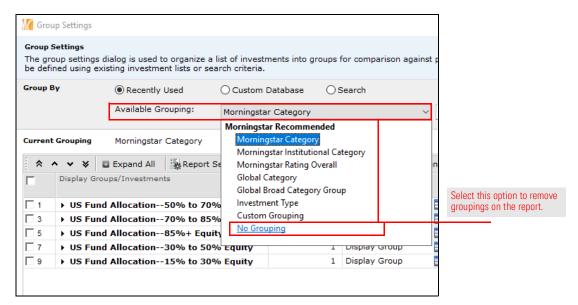


2. Using the My Lists drop-down field, select Custom Database.

M Select Investments	×	
Select Investments		
How do you want to se Name/Ticker/ISIN/CUSIP/S Single Investment: Multiple Investmer	ecId	
◯ Search Criteria	Open End Funds \sim	
My Lists Import List	Custom Database 🗸 🗸	Be sure this list is selected for the report.
	ок Cancel Help	

3. Click **OK**. The Group Settings window opens.

4. From the **Available Grouping:** drop-down field, select **No Grouping** to set a single group of funds.



- 5. Click **Update**. When the confirmation message appears, click **OK**.
- In the first row, scroll right to set the Calculation Benchmark field to Personal: My Sector Benchmark1. This allows the report to calculate an Excess Return value for the investments compared to the benchmark assigned to each investment in the Custom Database.

M Group Settings					
	s dialog is used to organize a existing investment lists or se		into groups for compa	rison against p	
Group By	Recently Used Available Grouping:	O Custom Datab	ase 🔿 Search	~	
Current Grouping	No Grouping	Settings X Delet	e 🐐 Custom groups	Show Ben	
4	Groups/Investments		Calculation Benchmark		
		2 - 1 	Morningstar Category A Morningstar Category I Morningstar Index Provider Benchmark MT Index Best Fit Index Display Benchmark 1 Display Benchmark 1 Display Benchmark 2 Firm: test benckmark ic Personal: My Benchmar Personal: My Benchmar Personal: My Sector Be Personal: My Sector Be	verage ndex ichmark k1 k2 nchmark1	Select this option from the Calculation Benchmark field

- 7. Click **OK** to close the Group Settings window. The Select Column dialog box opens.
- 8. Select User Defined, then click OK. The Performance Column Setup window opens.

The Date custom discrete data point will be used to calculate performance for each investment (starting with the Buy Date). Each fund's excess return compared to the benchmark assigned in the Custom Database also needs to be included.

Exercise 12: Use a custom date data point in a performance report

Do the following:

- 1. The Time Periods tab should be selected. From the **Start Date** drop-down field, select **Custom Date**.
- 2. Click Add Columns. The time period is added to the Selected Time Periods field.

10 Performance Column				
Time Period Setup The time periods tab is				
Time Periods D	ata Points Ranks			Select this option for the Start Date.
Start Date	Custom Date 🗸	01/01/2015	Ŧ	
End Date	Last Month End 🗸 🗸	12/31/2019] +	
Time Periods	Single period	O Rolling window		
	○ Trailing periods	O Regular periods from start		
	○ Forward extending periods	Regular periods from	end	
Window size	~			
Number of columns	1 Add Columns			Click this button to add the Custom Date to the report.
Selected Time Periods Custom Date - 12/31, Manage Colum Order time period I	/2019 (Custom Date - Last Month End		* * * *	
Help		ок	Cancel	

- 3. Select the **Data Points** tab. Return is the default statistic, and a Buy Date data point has been added. The Buy Date data point will display the start date for each investment in the report.
- 4. To see how the investments performed compared to their respective benchmarks over that time period, **scroll down** in the **Data Points** field and select **Excess Return**.
- 5. Ensure the Use Calculation Benchmark 1 check box is selected and click Add.

Merformance Column Setup X	
Data Points This tab is used to add, edit or remove calculation data points to time period(s) on the performance report.	
Time Periods Data Points Ranks Time Period: Custom Date - 12/31/2019 ~	Be sure to select this tab.
Data Points Efficiency Ratio (geo) Estimated Fund-level Net Flow (Daily) Estimated Fund-level Net Flow (Monthly) Estimated Net Cash Flow - Share Class Excess Return Excess Return (geo)	Select this data
First Date v First Value v Use Calculation Benchmark 1 Use Calculation Benchmark 2 Add Selected Data Points	point, then click Add.
Buy Date Return Excess Return	
Manage Columns Settings Remove Apply add/remove to all time periods	
Help OK Cancel	

6. Click **OK** to close the Performance Column Setup window. The Supplementary Columns window opens.

The next step is to add both the custom discrete and historical data points to the report. The Historical tab in the Supplementary Data Points window allows users to retrieve the custom historical series data points created in the Custom Database. As a reminder, this concerns the following historical series data points:

► Free Text

- ► Numeric
- Price, and
- ► Return.

To add the discrete and historical data points, do the following:

1. The Supplementary tab should be selected. From the **Find Data Point By** drop-down field, **scroll down** to select **My Database (Current Data)**.

Supplementary Columns			×	
Supplementary Data Point This tab is used to add, ed	s it, or remove supplementary data points to	the (performance report.	
Supplementary Hist	torical Ranks	_		
Universe:	Open End Funds	~]	
	General			
Find Data Point By:	View OName containi	ng		
	Snapshot	~		
Available Supplementary	India Regulatory Market Cap Breakdown Equity Sector Exposure Equity Industry Exposure Equity Sectors (GICS)	^		
Name Base Currency Virtual Class Ticker	Equity Industry (GICS) Equity Port Stats (Long) Equity Port Stats (Short) Equity Style Analysis		^	
ISIN	Equity Regional Exposure Equity Country Exposure Equity Country (MSCI) Fixd-Inc Calc Core Analytics		v	
Selected Supplementary	Fixed-Inc Portfolio Statistics Fixed-Inc Super Sector Breakdown Fixed-Inc Primary Sector Breakdown Fixed-Inc Secondary Sector Breakdown		Add	
Name	US Fixed-Inc Sector Breakdown Fixed-Inc Sector Country Breakdown Fixed-Inc Muni Sector Exposure Fixed-Inc Regional Exposure Fixed-Inc Country Exposure Alternative Style Analysis		*	
	Surveyed Currency Exposure Cash Exposure Fees and Expenses Ownership Statistics		✓✓✓	Select the
Manage Columns	Fees Schedule and Breakdown Firm-level Database (Current Data)		emove All	
	My Database (Current Data) Performance Attribution	v		

Exercise 13: Add the discrete and historical custom data points to the performance report

- 2. **Double-click** each of the following data points:
 - My Sector Benchmark1
 - Buy Date
 - Internal Rating
 - Classification, and
 - ► Analyst Name.

Supplementary Columns				×	
Supplementary Data Points This tab is used to add, edi		nentary data points t	to the performance	report.	
Supplementary Hist	orical Rank:	S			
Universe:	Open End Funds		~		
	General		~		
Find Data Point By:	● View	O Name contai	ning		
	My Database (Curre	nt Data)	~		
Available Supplementary	Columns				
My Grade My Sector Benchmark1 My Sector Benchmark2 Buy Date Internal Rating Classification			^		
Analyst Name					
			Add		
Selected Supplementary (Columns				
Name				\$	
My Sector Benchmark1 Buy Date Internal Rating Classification				▲ ▼	All of these discrete custom data points should be added to the report.
Analyst Name				*	
Mapage Columns	Sattings	Pamoya	Perrove All]	

3. To add the historical internal rating data point created in the Custom Database, click the **Historical tab**.

4. From the **Find Data Point By** drop-down field, **scroll down** to select **My Database (Historical Series)**.

M Supplementary Columns	×	
Select historical data points Select data point and speci		
Supplementary Hist	orical Ranks	
Universe:	Open End Funds	
	General V	
Find Data Point By:	View OName containing	
	All Standard Data Points All Standard Data Points	
Available Historical Colum	Historical Price and Return Data Historical Fixd-Inc Calc Core Analytics Historical Portfolio Data	
Name Weekly Return	Historical Expenses and Turnover Data Historical Rating and Rank Data	Select this option from
Monthly Gross Return Monthly Return	Historical Cash Flow Data Historical Sustainability	the drop-down field.
	Firm-level Database (Historical Series) My Database (Historical Series)	
Yearly Gross Return Yearly Investor Return	v	

- 5. Select the Historical Internal Rating.
- 6. Set the **Start Date** field to **1 year ago**.
- 7. Set the End Date field to Last Month End.
- 8. Click Add.

10 Supplementary Colum	ns X]
-	ints to add to the performance report. Decify desired time range to add historical data to report.	
Supplementary H	tistorical Ranks	
Universe:	Open End Funds 🗸	
	General \lor	
Find Data Point By:	○ View	
	Go	
Available Historical Col	lumns	
Historical Internal Rat	ing A	
	~	
	Number of columns 12 Add	
Historical Date Range		
Start Date	1 year ago ~ 01/01/2019	Note the settings
End Date	Last Month End ~ 12/31/2019	for these fields.
Selected Historical Colu	Jmns	
Historical Internal Rat	ing (1 year ago - Last Month End)	
	^	
	↓	
	*	
	Manage Columns Settings Remove	
Order time period la	atest first	
		-
Help	OK Cancel	

- 9. Click **OK** to close the Supplementary Columns window.
- 10. Click **Calculate** to view the report. When prompted, save the report with the name **Custom Data Performance Report**.

Custom Data can also be used in the Morningstar Excel Add-In. Use the Investment button from the Morningstar toolbar to easily access and create formulas using the custom data points. When searching for data points in the Data Point field, custom data points are marked with an asterisk after the name.

Exercise 14: Retrieve custom data using the Morningstar Excel Add-In

с	Morningstar Add-In Securities Attributes/Time series Holdings	Layout Row Column	Output	
al Equity Income A2	Ownership Identifiers	Security BGF Global Equity Income A2 Short Name	Data Point buy date	
Buy Date	(Trenamgs	Buy Date*		Note the asterisk denoting a custom data point.

Use the MSDP formula to retrieve discrete custom data points:

	e Home Insert			nulas D	Data Review	View	Help	Morningstar	کر Acrobat) Search	
Conr	→ Data nection Function	Indicators ~	Ref	resh	Re	sources					
C2	• I X v	f _x =MS	SDP(\$A2,\$C\$1,"(CORR=C, HE	EADERS=FALSE)					When using cell reference for a custom data point's name in
	А		В		С		c	Formula Bar	E		a column header, be sure to include the asterisk at the
1	Custom Database - TICKER	Name			Buy Date*	Internal R	ating	Classification	*	Anal	end of the data point's name.
2	ABALX	American Fund	ds American Bal	anced A	7/25/2014	1	6.00	Moderate Allo	ocation	Mark	end of the data point's name.
3	BLDRX	BlackRock Man	naged Income K		7/24/201	3	7.00	Conservative	Allocation	Char	
4	HBLYX	Hartford Balan	nced Income Y		5/14/2014	1	5.00	Moderate Cor	nservative Allocation	on John	
5	MIAGX	MFS Aggressiv	e Growth Alloca	ition I	6/4/201	3	4.00	Aggressive Al	location	Char	
6	MGWIX	MFS Growth A	Ilocation I		9/29/201	5	6.00	Moderate Age	gressive Allocation		
7									Dele	rte	
8											
9											
10											
11											

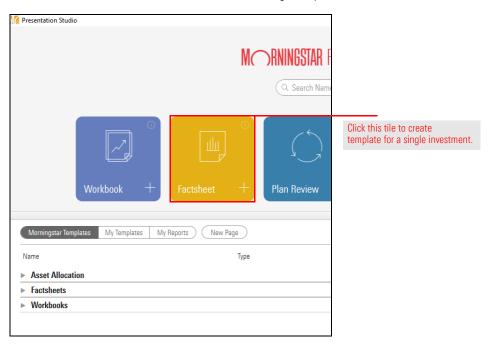
The MSTS formula allows users to retrieve custom time series data points:

P	le Home Insert Draw	c Key Indicators ~		Acroba	at 🔎 Search	2		
Ca	C3 • : X / fx = MSTS(\$A3,\$C\$1,"2/1/2017","1/31/2020","CORR=R, DATES=FALSE, ASCENDING=TRUE, FREQ=M, DAYS=T, FILL=B, HEADERS=FALSE")							
	A	В	C	D	E	F		
1	Custom Database - TICKER	Name		Historical Internal	-	В		
2			Sep-19	Oct-19	Nov-19	Dec-19		
3	ABALX	American Funds American Balanced A	8.00	7.00	6.00	5.00	For time series data	
4	BLDRX	BlackRock Managed Income K	5.00	5.00	6.00	6.00		
5	HBLYX	Hartford Balanced Income Y	6.00	6.00	6.00	7.00	points, remember to	
6	MIAGX	MFS Aggressive Growth Allocation I	5.00	5.00	5.00	5.00	change the CORR value	
7	MGWIX	MFS Growth Allocation I					R in order to see values	
8							the same investment in	
9							row, rather than colum	
10								

Custom data can easily be integrated in Presentation Studio factsheet and workbook templates. This exercise shows users how to integrate both discrete and historical data points in various components. Do the following:

Exercise 15: Use custom data in Presentation Studio

- 1. Select the **Presentation Studio** module.
- 2. Click the Factsheet tile. The Create New Factsheet dialog box opens.



3. Select Morningstar Templates > Equity Manager Factsheet 2.

	Create New Factsheet		×	
How do you want to create the	e factsheet?			
New Factsheet				
Morningstar Templates	Equity Manager Factsheet 2		~	Note the selection here
O My Templates			~	
		OK Cancel		

- 4. Click **OK**. The Investments: Settings window opens.
- 5. Click the **magnifying glass icon** to the right of the Name field. The Find Investment dialog box opens.

	Investments: Settings						
Name	Inception Date Category	Show Display Name	Calculation Benchmark 1	Calculation Benchmark 2			
	a.	\checkmark	Display Benchmark 1 💉 🔍	Display Benchmark 2 🗸 🧯	Click this icon		
Display Benchmarks					to select a func		
Morningstar Category In 💉	 A 	\checkmark	Display Benchmark 1 🔹 🔍	Display Benchmark 2 🗸 🧯	to select a func		
MPT Index Y	٩,		Display Benchmark 1 💉 🔍	Display Benchmark 2 🗸 🧯			
Category Average							
	Q		Display Benchmark 1 🔹 🔍	Display Benchmark 2 🗸 🧯			
<				>			
				OK Cancel			
				Cancer			

- 6. Select option button for **My Lists**, then select **Custom Database** from the drop-down field.
- 7. Click **Go**.
- 8. Select **BlackRock Managed Income K**, then click **OK**. The Investment: Settings window is seen again.

Find Investment				×	
Within	OUniverses	My Lists	Омуз	Searches	
	Custom Databas	se		~	Note the selected options here.
Find By	Name 🗸	Begins with Include Only	O Conta Surviving Ir		
				Go	
Available Record	s				
Total records: 5					
Jump to record r	iame:				
American Funds	American Balanced	A (USD,XNAS,AB	ALX,Port+Per	f,RepPerf)	
	ged Income K (USI				Select this fund, then click OK.
	ed Income Y (USD,) Growth Allocation I				
	cation I (USD,XNAS			(opron)	
Help			ок	Cancel	

9. From the drop-down field in the first row under the Display Benchmarks section, select **My Sector Benchmark1 (Personal-level)**.

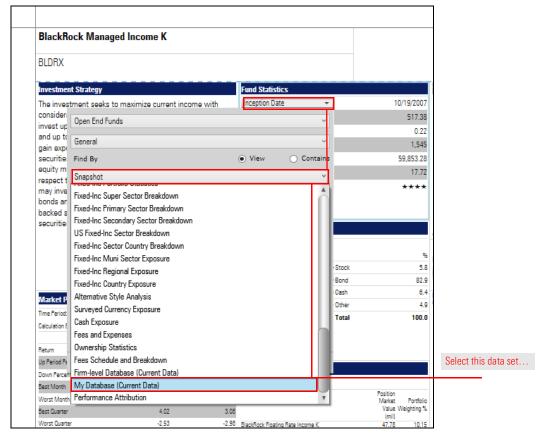
1					
at	Name	_	Tanan tina Data	Catalana	
	BlackRock Managed Income	ĸ	Inception Date	US Fund Allocation	
Dis	splay Benchmarks				
tf 📃	Morningstar Category In	· Q			
Best Fit		Ø,			
Morning	istar Category Average Istar Index	2	4/14/1987	Allocation15% to 3	
MPT Ind Provider	lex r Benchmark				
	Prospectus Benchmark				
test ben	r Preferred Benchmark ickmark id (Firm-level) chmark1 (Personal-level)				Select this option for the benchmark on the report
	chmark2 (Personal-level)				
	or Benchmark1 (Personal-level or Benchmark2 (Personal-level				

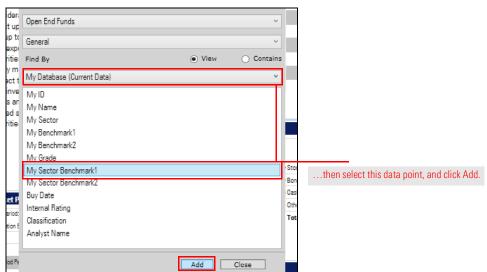
10. Click **OK**. The report loads on screen. Note the use of the benchmark selected in several of the components.

In this exercise, some components will be modified to integrate custom data. Custom discrete data points can be used in the Snapshot tables. The Fund Statistics table on this template uses the Operations - Single Investment table. Do the following:

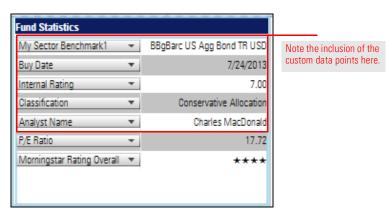
Exercise 16: Include discrete custom data points on a template

- 1. Click the **Fund Statistics** table on the page to select it. The row labels activate as drop-down fields.
- 2. Change the Inception Date row by first pointing to My Database (Current Data), then select My Sector Benchmark1 and click Add.





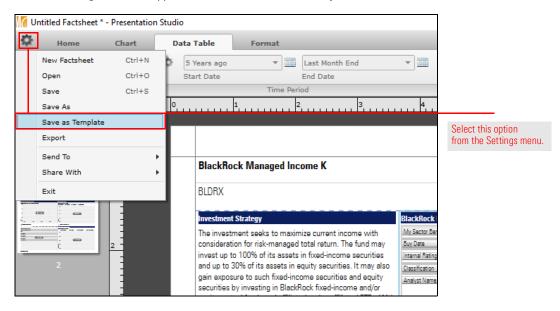
- 3. Repeat steps 1 to 3 with the next few rows in the table to add these custom discrete data points:
 - ► Buy Date
 - Internal Rating
 - ► Classification and
 - ► Analyst Name.



- 4. Right-click on each remaining row and select Delete Row to remove them.
 - ☞ Note: Be careful not to select the Delete option, as this will remove the entire table.

	BlackRock Managed Incom	e K - Operations		Т	
h	My Sector Benchmark1	BBgBarc US Ag	g Bond TR USD		
nay	Buy Date *	-	7/24/2013		
es	Internal Rating	,	7.00		
also	Classification	r Conserv	ative Allocation		
ty r	Analyst Name	r Cha	ries MacDonald		
r	Deferred Load	-	-		
	Cut	Ctrl+X			
	Сору	Ctrl+C	-		
	Paste	Ctrl+V		Return	
	Delete	Del			
	Unlock First Column			-	
	Select	•	%	BI	Be sure to select this option
	Insert Row		5.8	BE	
	Delete Row		82.9		
_			6.4	C	
	Data Settings		4.9		
	Decimal Places	•	100.0		
	Additional Columns	•	L		
	Font Color	•			
	Background Color	•			
	Grid Color	•			

5. From the Setting icon in the upper-left corner, select Save as Template.



- 6. Name the template **Custom Data Factsheet**, then click **Save**.
- 7. When the confirmation message opens, click **OK**.

Next, the Asset Exposure pie (or donut) chart will be changed, to see how to integrate the custom composition entered in Exercise 8 on page 26. To integrate the custom composition in a pie chart, do the following:

Exercise 17: Use a composition custom data point in a template

- 1. Click the **Asset Allocation** cell to select it. In the bottom-left corner of the window, the Chart Settings menu becomes available.
- 2. Click **Chart Settings**. The Chart Settings window opens.

1	BlackRock Managed	I IIICOIIIE N					
CABC 1	BLDRX						
	Investment Strategy			BlackRock Managed Income	K - Operations		
	The investment seeks to r	naximize current incon	ne with	My Sector Benchmark1	66g6arc US Agg B	and TR USD	
2	consideration for risk-man			Buy Date		7/24/2013	
	invest up to 100% of its as	ssets in fixed-income s	ecurities	Internal Rating		7.00	
2	and up to 30% of its asset			Classification	Conservativ	e Allocation	
	gain exposure to such fixe			Analyst Name	Charles	MacDonald	
	securities by investing in E equity mutual funds and a						
3 -	equity mutual funds and a respect to the fund's fixed						
	may invest in fixed-income						
	bonds and notes, commer						
	backed securities, asset-b					1	
	securities, etc.		· ·	Asset Allocation			
4 -						-	
*				Portfolio Date: 12/31/2019			
						% E	
					Stock	5.8	
					* Band	82.9	
	Market Performance				• Cash	6.4	
5 -	Time Period: 2/1/2015 to 1/31/2020				• Other	4.9	
	Calculation Benchmark: BBgBarc US				Total	100.0	
		inv	Bmk1				
	Beturn	4.11	3.01				
	Up Period Percent	65.00	58.33				
6 -	Down Percent Ratio	0.68	0.00	Top 10 Holdings			
	Best Month	2.37	2.59	Portfolio Date: 12/31/2019			
	Warst Manth	-1.49	-2.37		Position Market	Portfolio	
	Best Quarter	4.02	3.08		Value V	Veighting %	
	Worst Quarter	-2.53	-2.98	BlackRock Floating Rate Income K	(mil) 47.78	10.15	
7 -	Uo Capture Ratio	81.77	100.00	Shares MBS ETF	45.25	9.61	
	Down Capture Ratio	18.27	100.00	BlackRock Allocation Target Shrs Ser A BlackRock GNMA K	28.03	5.95	
	R2	15.72	100.00	BlackRock Liquidity T-Fund Instl	9.09	1.93	
		12.75	100.00	Shares Boxx \$ Invmt Grade Corp Bd E Shares Core Dividend Growth ETF	TF 8.30 5.30	1.76	
				WisdomTree International Equity ETF	2.23	0.47	
8 -				CIFC Funding 2017-III Ltd./CIFC Funding Allergan Funding SCS 3.45%	2017-III LLC 3.19% 1.86 1.81	0.39 0.38	
	Source: Morningstar Direct						
							Select this m
			_				to change th
_ - _ < _	-		_				

- 3. Change the **Source Data** drop-down field to **Custom Data**.
- 4. From the Data Set drop-down field, select Asset Allocation Breakdown (Personal-level).
- 5. Select the option for Available Portfolios. The date 12/31/2019 should appear.

	Chart Settings			×	
Chart Display					
Chart Title	Asset Allocation			Φ	
Source Data	Custom Data	Note the selections			
	Allocation Breakdown (Persona	for these two fields.			
Portfolio Date				φ	
 Standard 	Most Recent Portfolio			~ 15	
• Available Portfolios	12/31/2019			~	Be sure the correct
Sort	Default	portfolio date is selected here			
Order	Ascending Oes				
Data Point	Display Name	Color		A	
Cash	Cash		¥	A	
Stock	Stock		\sim	v	
Bond	Bond		\sim	v	
Derivative	Derivative		\sim	V	
	Futures		~		

- 6. Click away to close the Chart Settings window. The custom asset allocation breakdown is now displayed in the report.
- 7. From the Setting icon in the upper-left corner, select Save as Template.

1 6 U	ntitled Factsheet *	- Presentation	Studio	
¢	Home	Chart	Data Table Format	
	New Factsheet Open	Ctrl+N Ctrl+O	5 Years ago Start Date End Date	
	Save	Ctrl+S	Time Period	
	Save As Save as Template		0,,1,,2,,3,,4,	
	Export		_	Select this option from the Settings menu.
	Send To Share With		BlackRock Managed Income K	
	Exit	_	BLDRX	
	2	2 -	Investment Strategy BlackRock The investment seeks to maximize current income with consideration for risk-managed total return. The fund may invest up to 100% of its assets in fixed-income securities and up to 30% of its assets in quity securities. It may also gain exposure to such fixed-income securities and equity securities by investing in BlackRock fixed-income and/or BlackRock	

8. Select the Custom Data Factsheet template, then click Save.

- 9. When the overwrite warning opens, click Yes.
- 10. When the confirmation message opens, click **OK**.

As a final exercise in working with custom data in Presentation Studio, this exercise shows users how to use historical series data points using the Time Series components. The template in use has no time series components by default, so the Market Performance table in the bottom-left corner will be replaced with a Time Series chart to display the Historical Internal Rating data point. Do the following:

Exercise 18: Use custom historical time series data points

- 1. At the top of the screen, be sure the **Home** tab is selected.
- Click Chart > Time Series, then drag-and-drop the Time Series chart into the cell occupied by the Market Performance table in the bottom-left corner of the first page.

Untitled	Factsheet * - Pr	resentatio	n Studi	0							
Ф	lome (Chart	D	ata Tab	le	Format	t				
÷			ille		A			\odot	ī	Q	
Investments	s Workbook	Page	Chart	Table	Text	Image	Divide Page	View	Calculate	Restor	
	Markets			Insert			Layout		Calculate	Linkin	
<u> </u>	Performance				1		2		3	4.	
	Asset Exposur	re									
Wangel	Holdings Analysis										
	Attribution			Bla	ackRoc	k Manage	ed Income K				
	Snapshot			BI	IRV						
	Style Analysis			BLDRX					Drag-and-drop this chart to replace the Market Summary ta		
	Time Series					Δ					
	Asset Flows		_	~	\sim	3					
	Multiple Retur	ns			270	~~					
	Legend			Time	Series C	hart					
	All Charts			- 300	unuee oy	mveaungm	DIGERHOER HARD	moome	anayor		

- 3. In the bottom-left corner, click Chart Settings
- 4. Select the **Primary Axis** tab.
- 5. From the Data List drop-down field, select My Database (Historical Series).
- 6. From the Data Point drop-down field, select Historical Internal Rating.

Disclose a c	Chart Settings		
Display Prima Universe	open End Funds	~	
Data List	My Database (Historical Series)	U	Note the selections from these
Data Point	Historical Internal Rating	U	two fields on the Primary Axis tab.

7. Click away from the Chart Settings window to close it and view the changes.



8. From the Setting icon in the upper-left corner, select Save as Template.

1 6 U	ntitled Factsheet *	- Presentation	Studio)			
Q.	Home	Chart	Da	ita Table	Format		
	New Factsheet	Ctrl+N	þ	5 Years ago	▼ Last Month End	-	
	Open	Ctrl+O		Start Date	End Date		
	Save	Ctrl+S			Time Period		
	Save As		o		1 2 3	4	
	Save as Template						Select this option
	Export						from the Settings menu.
	Send To	•	1-				
	Share With	•	1	Blackho	ock Managed Income K		
	Exit			BLDRX			
				Investmen	t Strategy	BlackRock	
	2	2		The invest considerat invest up t and up to gain expos	ment seeks to maximize current income with ion for risk-managed total return. The fund may to 100% of its assets in fixed-income securities 30% of its assets in equity securities. It may also sure to such fixed-income securities and equity by investing in BlackRock fixed-income and/or	My Sector Ber Buy Date Internal Rating	

- 9. Select the **Custom Data Factsheet** template, then click **Save**.
- 10. When the overwrite warning opens, click Yes.
- 11. When the confirmation message opens, click **OK**.