Release Notes for Morningstar DirectSM June 24, 2019

This document describes the new features and enhancements in Morningstar DirectSM, **Overview** as follows:

- g Category Changes (page 2)
- g Data Point Changes (page 4)
- g Changes in the Target-Date Series Reports (page 5)
- g New Return Types for Closed End Funds in Presentation Studio (page 7)
- **g** New in the Morningstar Excel Add-In (page 10)

Read on to learn about these upgrades and how they can enhance your use of the application.

Category Changes

This section details changes to categories in several areas around the world, as follows:

g Category changes outside the United States (page 2), and

g Index changes for Morningstar Categories in Canada (page 3).

The following table describes the changes to categories outside the United States:

Type of Change	Category
New Morningstar Categories for the following universes:	g Domicile (other than Canada) g Global Broad Category Group
g Worldwide ETF g Europe ETF, and g Canada ETF	 Note: These categories appear on the Market Summary page.
Brazil: New ANBID Category (Effective May 30, 2019)	ETF - Renda Fixa
Taiwan: New SITCA category	International Equity-ETF-Industries
Spain: New CNMV categories	 g FMM a corto plazo de valor liquidativo constante de deuda pública g FMM a corto plazo de valor liquidativo de baja volatilidad g FMM a corto plazo de valor liquidativo variable g FMM estándar de valor liquidativo variable g Renta Fija Euro a Corto Plazo g IIC que replican un índice g IIC con objetivo concreto de rentabilidad no garantizado

What are the changes to categories outside the United States?

Overview

Effective June 1, 2019, in the Canadian OE/ETF universe, the primary index (MPT) of the following categories has been replaced with a Morningstar Index:

What are the index changes for Morningstar Categories in Canada?

Category	New Primary Index	Old Primary Index
Asia Pacific ex-Japan Equity	Morningstar Asia Pac xJpn GR CAD	MSCI AC Far East Ex Japan GR CAD
Asia Pacific Equity	Morningstar Asia Pac GR CAD	MSCI AC Far East GR CAD
Canadian Fixed Income	Morningstar Canadian Bd TR CAD	FTSE Canadian GBI CAD
Canadian Equity	Morningstar Canada GR CAD	S&P/TSX Composite TR
Canadian Focused Equity	Morningstar Canada GR CAD	S&P/TSX Composite TR
Emerging Markets Equity	Morningstar EM GR CAD	MSCI EM GR CAD
European Equity	Morningstar Europe GR CAD	MSCI Europe GR CAD
Financial Services Equity	Morningstar Gbl Fin Svc GR CAD	MSCI World/Financials GR CAD
Global Equity	Morningstar Gbl Mkts GR CAD	MSCI World GR CAD
International Equity	Morningstar DM xNA GR CAD	MSCI EAFE GR CAD
Precious Metals Equity	Morningstar Gbl Gold GR CAD	S&P/TSX Global Gold TR CAD
US Equity	Morningstar US Market GR CAD	S&P 500 TR CAD
US Money Market	Morningstar Cash PR USD	USTREAS T-Bill Auction Ave 3 Mon
North American Equity	Morningstar DM Americas GR CAD	MSCI North America GR CAD
Global Small/Mid Cap Equity	Morningstar Gbl Mkts SMID Cap GR CAD	MSCI World Small Cap GR CAD
Greater China Equity	Morningstar China GR CAD	MSCI EM China GR CAD
Energy Equity	Morningstar Gbl Oil&Gas EandP GR CAD	S&P/TSX Capped Energy TR
Global Infrastructure Equity	Morningstar Gbl Eq Infra GR USD	DJ Brookfld Gbl Infra N. American TR CAD

Effective June 1, 2019, in the Canadian OE/ETF universe, the Morningstar index of the following categories has been replaced:

Category	New Morningstar Index	Old Morningstar Index
Canadian Focused Equity	Morningstar Canada GR CAD	Morningstar DM Americas GR CAD
Precious Metals Equity	Morningstar Gbl Gold GR CAD	Morningstar Gbl Bas Mat GR CAD
US Money Market	Morningstar Cash PR USD	_
Energy Equity	Morningstar Gbl Oil&Gas EandP GR CAD	Morningtar Gbl Energy GR CAD

Data Point Changes

The following table describes the new and retired data points in China, the United Kingdom, and Australia:

What are the new and retired data points?

Type of Change	Description of Change
China: New and retired data points	In all China markets, Asset Flow data is quarterly. This is addressed as follows:
	g The data points 1-Mo and QTD have been retired, and g Quarterly data points such as Q4 2018 and Q1 2019 have been added.
UK: New data point Directors	Directors data point:
	g Lists the current directors g Found at the far-right in Snapshot View in Global Closed-End Funds and UK Investment Trust
Australia: New data point Asset Allocation Survey Date	The Australian Asset Allocation is derived from manager-surveyed asset allocation data and is not based on underlying portfolio holdings. When the user preference is set to Asset Class Type=Australia Allocation, in the Asset Allocation view, the new data point Asset Allocation Survey Date is used instead of Portfolio Holdings Date. It is found at the far-right in Asset Allocation view.
	 Note: The Asset Allocation Survey Date matches the data point Surveyed Asset Class(AUS).

Changes in the Target-Date Series Reports

The changes to the Target-Date Series Report are described in the following table:

Chart/Table	Change
Target-Date Funds Risk-Adjusted Returns	Replaced with a performance matrix for each underlying fund using a representative share class. See the example on page 5.
Equity Allocations, Fixed-Income Allocations	Compare values against peer average instead of other series. See the example on page 6.
Attribution Analysis	Replaced with visuals showing the selection effect and allocation effect. See the example on page 6.
Series Holding-Based Style Map	Removed

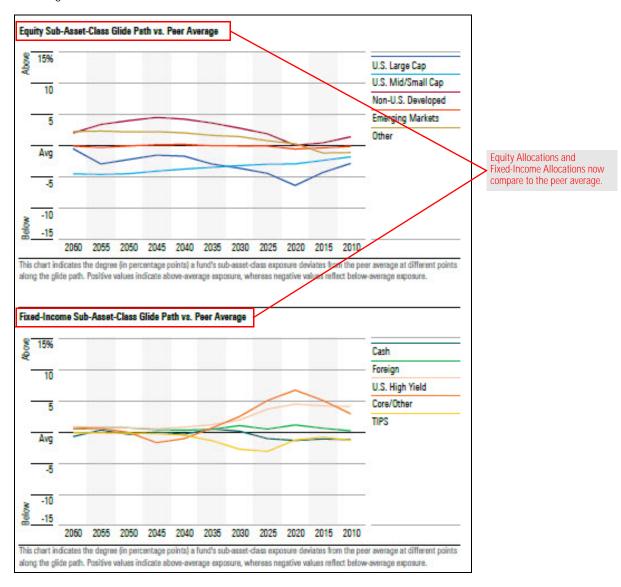
What has changed in the Target-Date Series Reports?

For more information, please read the Target-Date Fund Series Report Methodology. The new performance matrix is shown in the following screenshot:

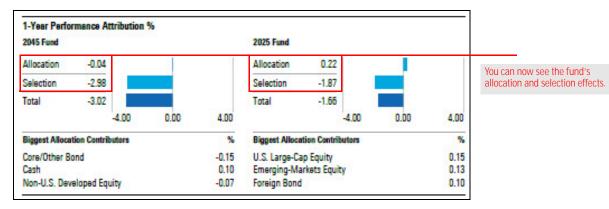
Trailing Returns (%) Fund vs. Benchmark and	Category								Unde	rperform	ed Outp	erformed	- 1	lank
											One	Both	s50	>50
			1-Year			3-Year			5-Year			10-Year	8	
	Morningstar	# Funds	Return	Renk	# Funds	Return	Rank	# Funds	Return	Rank	# Funds	Betam	Bank	#Fund
Fund / Index / Category	Rating	in Cat.	*	-	in Cat.	%	%	in Cat.	%	8	in Cat.	*	*	in Cat
JPMorgan SmartRetirement* Blend Inc R6	****	197	2.96	n	185	5.53	20	161	4.16	17	125	-	-	91
S&P Target Date Retirement Income TR USD			3.72			4.70			3.89			6.38		
US Fund Target-Date Retirement		0.00	3.44	40	15.4	4.79	-		3.45	-		6.62		
JPMorgan SmartRetirement* Blend 2020 R6	****	263	2.96	65	251	6.73	48	204	5.16	25	166	-	-	100
S&P Target Date 2020 TR USD			3.94			6.97			5.27			9.50		
US Fund Target-Date 2020			3.38	-	007	6.57	-		4.58	- 00		9.23		
JPMorgan SmartRetirement* Blend 2025 R6	****	241	3.06	60	227	7.65	48	187	5.72	22	147	-	-	74
S&P Target Date 2025 TR USD			3.90			7.74			5.66			10.32		
US Fund Target-Date 2025			3.38		-	7.51			5.09			10.25		
JPMorgan SmartRetirement* Blend 2030 R5	****	252	2.99	68	240	8.57	43	194	6.21	23	156	-	-	9
S&P Target Date 2030 TR USD			3.82			8.44			6.05			11.04		
US Fund Target-Date 2030			3.31			8.34			5.56			10.79		
JPMorgan SmartRetirement* Blend 2035 R6	****	236	3.02	53	222	9.17	48	182	6.56	24	142	-	-	6
S&P Target Date 2035 TR USD			3.66			9.09			6.41			11.65		
US Fund Target-Date 2035			3.17	1	_	9.13			5.95		_	11.53		
JPMorgan SmartRetirement* Blend 2040 R5	****	252	3.05	49	240	9.85	37	194	6.90	22	156	-	-	9
S&P Target Date 2040 TR USD			3.58			9.56			6.66			12.05		
US Fund Target-Date 2040			3.04			9.54			6.18	0.001.04		11.71		
JPMorgan SmartRetirement* Blend 2045 R6	****	236	3.04	49	222	9.87	52	182	6.92	26	142	-	-	6
S&P Target Date 2045 TR USD			3.46			9.85			6.81			12.34		
US Fund Target-Date 2045		_	2.94	_	20.00	9.92	-	12	6.35			12.09	2	
JPMorgan SmartRetirement* Blend 2050 R6	****	252	3.01	47	240	9.89	53	194	6.92	31	156	-	-	7
S&P Target Date 2050 TR USD			3.41			10.12			6.96			12.50		
US Fund Target-Date 2050			2.87			9.94			6.41			12.02		
JPMorgan SmartRetirement® Blend 2055 R5	****	236	3.05	48	222	9.82	64	180	6.94	30	134	-	-	5
S&P Target Date 2055 TR USD			3.37			10.29			7.02			12.64		
US Fund Target-Date 2055			2.84			10.10			6.49			12.71		
JPMorgan SmartRetirement* Blend 2060 R5	-	224	3.39	.34	206	-	-	125	-	-	10	-	-	
S9P Target Date 2060+ TR USD			3.50			10.48			7.10			-		
US Fund Target-Date 2060+			2.99			10.21			6.30			-		
Average Bank				54	1.00		46			24				

You can now see the performance of each underlying holding.

The new Equity and Fixed-Income Allocations charts are shown in the following screenshots:



The new Allocation and Selection Effects are shown in the following screenshot:



New Return Types for Closed End Funds in Presentation Studio

In a performance component for a closed-end fund, the following return types are now available:

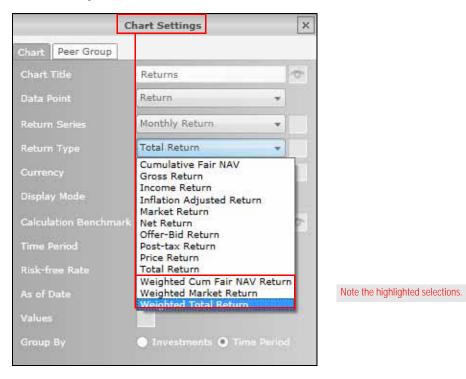
What are the new return types for closed end funds?

g Weighted Cum Fair NAV Return **g** Weighted Market Return, and **g** Weighted Total Return.

These return types can be set as described in the following table:

Setting	Effect
At the component level	Only the selected component's return type is affected.
At the workbook level	The return type of all performance components (including those already in existence) in that particular workbook are affected.
At the application level	The return type of all performance components throughout the application (including those already in existence) are affected.

Select a return type at the component level (Chart Settings or Table Settings) as shown in the following screenshot:



5	Workbo	ok	Page	Charl	Table	A Text	Image	Divide Page	View	Calculate	Restore	PDF	PPT
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	Time Start D		d					End Date					
		0.000.000					▼ 15	Last Month	-14			- 100	a o
	5 Year			2004			· 15						5. 94
	Rolling	24.046	dow Si	ze				Rolling Wind	dow Shift	:			
	3 Year	- 191					•	1 Month				•	
	Week B	inds (On Sa	turday			•						
	Portfol	io Da	ta: As-	of-date									
	Most F	Recen	t Portf	olio			• 15						
	Data S	Sourc	e										
	Return							Return Serie	es				
	Total I	Retur	n				•	Monthly Re	turn			•	
	Cumul Gross			AV				Total Return	n Type				
	Incom	e Ret	urn					Pre-tax				•	
	Inflati Marke			Return									
	Net Re Offer-												
	Post-t	ax Re	turn										
	Price F Total I												
	Weigh	ted C	um Fa	ir NAV R	eturn								
	Weigh Weigh			Return									
	weign	ted i	otal Re	eturn			_						

Select a return type at the workbook level as shown in the following screenshot:

Select a return type at the application level (on the Presentation Studio home page) as shown in the following screenshot:

			_ D X	
M	RNINGSTAR Preser	ntation Studio	0	
		Application Settings		×
	Data Attribution Layout Peer Group	Display Grouping Index Group	Style Asset Exposure	
	Display Benchmark 1	Display Benchmark 2	Display Benchmark 3	
	Morningstar Category Index 🔹 🔍	Best Fit Index 🔹 🔍	, Morningstar US Market PR U 🔻 🔍	
	Risk-free Rate USTREAS T-Bill Auction Ave 3 M			Note the highlighted selections.
	Return Series	Return Type	Total Return Type	selections.
	Daily Return 🔻	Total Return Cumulative Fair NAV	Pre-tax 🔻	
she	Default Currency	Gross Return		
SHE	US Dollar Time Period Start Date	Income Return Inflation Adjusted Return Market Return Net Return Offer-Bid Return	Week Ends On	
	5 Years ago T	Post-tax Return Price Return	15 Saturday 🔻	
es	Rolling Window Size	Total Return		
	3 Years 🔻	Weighted Cum Fair NAV Return Weighted Market Return		
	Portfolio Data: As-of-date	Weighted Total Return]	
	Most Recent Portfolio			
Cor	Portfolio Management Settings Missing Security	Cash Component		
	Missing returns 🔹	Use Risk-free Rate Proxy Return		
Fact	 Extended Performance Saving reminder for every 10 minutes 			
			Reset QK Cancel	

New in the Morningstar Excel Add-In

This section describes the changes to t	he features of the Morningstar Excel® Add-In.	Overview
In this section, you will learn about the	e following:	
g How to access the new features (p g New sectors in AIC (page 10) g Data point changes (page 11) g Category changes outside the Unit g Index changes for Morningstar Cat g Changes to the Global Risk Model g How the new Equity Market risk fa g How to access quarterly risk factor	ed States (page 11) regories in Canada (page 12) (page 13) ctor affects your data (page 13), and	
To access the new features, install the as follows:	latest version of the Morningstar Excel Add-In,	How do I access the new features?
1. In a web browser, navigate to the N	Norningstar Excel Add-In home page.	
 On the Morningstar Excel Add-In pa click the Download button. A wind 	age, under Downloads , locate the latest version and ow opens.	
3. Click the Download button for one of	of the following:	
g Executable package (.exe) g Windows Installer (.msi), or g Zipped files (.zip).		
 In the window, follow the instruction Setup Wizard opens Excel. 	ns for the download you selected. The Morningstar	
 In Microsoft Excel, you may see a S disabled." Click Enable Content. 	ecurity Warning reading "Macros have been	
6. In the Setup Wizard window, click (Close. Excel opens.	
The following sectors have been added	t to Association of Investment Companies (AIC):	What sectors have been added to AIC?
g Asia Pacific	g Property - UK Commercial	
g Asia Pacific Income	g Property - UK Healthcare	
${f g}$ Asia Pacific Smaller Companies	g Property - UK Residential	
${f g}$ Debt - Direct Lending	g Royalties	
g Debt - Loans & Bonds	g Technology & Media	
${f g}$ Debt - Structured Finance	g Property - Debt	

 ${f g}$ Growth Capital

points have changed?

What data

The data point changes are described in the following table:

Data Point	Change
Market_Ret_Annlzd_ 2Yr_Daily	Currency conversion for Market_Ret_Annlzd_2Yr_Daily of Chinese Yuan Renminbi to USD was correct in the Morningstar Excel Add-In, but not in Morningstar Direct. This problem has been resolved.
Historical Morningstar Sustainability Ratings	The frequency for the data point was has been changed from Daily to Monthly, Quarterly, and Yearly.

What are the changes to categories outside the United States?

The following table describes the changes to categories outside the United States:

Type of Change	Category
Taiwan: New SITCA category	International Equity-ETF-Industries
Spain: New CNMV categories	 g FMM a corto plazo de valor liquidativo constante de deuda pública g FMM a corto plazo de valor liquidativo de baja volatilidad g FMM a corto plazo de valor liquidativo variable g FMM estándar de valor liquidativo variable g Renta Fija Euro a Corto Plazo g IIC que replican un índice g IIC con objetivo concreto de rentabilidad no garantizado
Brazil: New ANBID Category (Effective May 30, 2019)	ETF - Renda Fixa

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Canadian Equity	Morningstar Canada GR CAD	S&P/TSX Composite TR	
Canadian Focused Equity	Morningstar Canada GR CAD	S&P/TSX Composite TR	
Emerging Markets Equity	Morningstar EM GR CAD	MSCI EM GR CAD	
European Equity	Morningstar Europe GR CAD	MSCI Europe GR CAD	
Financial Services Equity	Morningstar Gbl Fin Svc GR CAD	MSCI World/Financials GR CAD	
Global Equity	Morningstar Gbl Mkts GR CAD	MSCI World GR CAD	
International Equity	Morningstar DM xNA GR CAD	MSCI EAFE GR CAD	
Precious Metals Equity	Morningstar Gbl Gold GR CAD	S&P/TSX Global Gold TR CAD	
US Equity	Morningstar US Market GR CAD	S&P 500 TR CAD	
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What has changed in

the Global Risk Model?

In this release, the Global Risk Model has been updated to enable the following new features:

- g Equity Market Risk Factor, and
- **g** Quarterly Risk Factor Exposure data.

The updated Global Risk Model is included when you install the newest version of the Morningstar Excel Add-In. See How do I access the new features? on page 10.

The new Equity Market Risk Factor improves the data surfaced by various Sector and Region factors via the following:

- g approximates the overall equity market return
- g roughly measures the overall equity market return over the designated time period
- **g** makes the Region and Sector factors more accurate and less correlated to each other, and
- **g** strongly correlates with a broad-based market index (FTSE All World Index for the global equity model).

For more information, please read the Morningstar Risk Model Methodology.

How does the Equity Market Risk Factor affect my data?

The updated Risk Model also supports quarterly Risk Factor Exposure data.

How do I access quarterly risk factor exposure data?

Securities O	Layout	Output				
Attributes/Time series	Row O Column	Show Headers				
Holdings						
Ownership	Security	Data Point				
Identifiers	Fidelity8	Portfolio Risk Factor Exposures		Save Add		
Portfolio Management	Start Date		End Date			
Attributes/Time series	3 years ago	4/1/2016	Last Quarter End 📓 3/	31/2019		
Holdings	O Descend @ Ascend					
	Frequency					
	Quarterly					

Note the highlighted selections.