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# Strategy Data

## Data Content Guide

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### Morningstar Data Content

31 December 2022

### Data Content Details

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Description: Overview of Morningstar Strategy Data

Last Reviewed: 31 December 2022

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### Background

Morningstar defines *strategy* as a vehicle- and domicile-agnostic approach to managing investor assets, where a shared investment decision-making process and portfolio construction approach is implemented through one or multiple investment vehicles. A strategy depicts the intent of the manager, resulting in a common set of economic or risk exposures and a similar performance experience for investors.

Morningstar's strategy database identifies and links together managed investments that employ the same strategy. Those investments may span multiple investment types, regions, markets, and advisor/subadvisor relationships. The database enhances due diligence by enabling investors to:

- ▶ Screen, filter, and analyze one or multiple strategies
- ▶ Link and view the complete range of investments that employ the same strategy
- ▶ Use strategy data to guide and expedite investment-level research

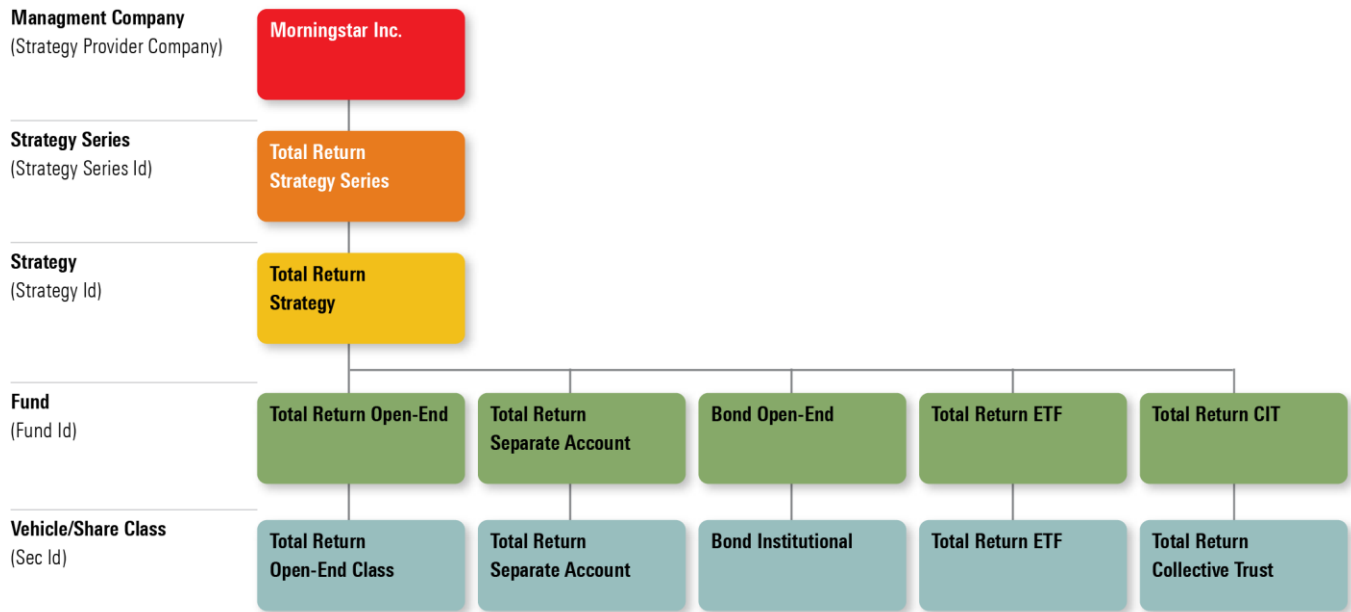
The strategy database has expanded its global reach in recent years because of investor interest in researching, monitoring, and reporting strategy data. In some markets, regulatory attention has highlighted the need to feature strategy data. Increasingly, wealth management and advisory platforms utilize strategy data to select desirable strategies and investment teams for their advisors or clients. A growing number of platforms are selecting strategies first, then negotiating with the strategy Provider Company to determine what investment vehicles to offer to their investors. Strategy data, coupled with Morningstar's investment-level and rich portfolio holdings data, informs a comprehensive analytical view of where a strategy fits within investor portfolios and the global marketplace.

Morningstar continues to evolve its strategy database. Where appropriate, Morningstar is migrating investment-level data, proprietary analytics, and research to the strategy level to highlight relevant connections across investment types, universes, and regions. Morningstar's data, research, and product teams collaborate on an ongoing basis to scale the connectivity between strategy and investment-level data, design new data points, and build workflows that make strategy and investment level due diligence, selection, and reporting more efficient and more impactful.

### Definition of the Dataset

Strategy data sits above investment-level data in Morningstar’s database structure:

**Exhibit 1** Morningstar Strategy Data Structure



Source: Morningstar Direct. Data as of 31 December 2022.

Morningstar's strategy database is built upon the following surveyed data points:

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**Exhibit 2** Definition of Dataset (Survey)

Data Point Name

Asset Allocation Strategy: Strategic	Investment Analysis Process: Fundamental
Asset Allocation Strategy: Tactical	Investment Analysis Process: Quantitative
Asset Class	Investment Analysis Process: Technical
Assets Under Advisement	Investment Decision-Making Process
Assets Under Management	Investment Philosophy
Country Security Allocation: Bottom-Up	Strategy Description
Country Security Allocation: Top-Down	Management Approach
Fixed-Income Strategy: Individual Security Selection	Percentage From External Research
Fixed-Income Strategy: Interest-Rate Expectation	Portfolio Construction
Fixed-Income Strategy: Option Adjusted Spread Based	Position Limits: High Cash (%)
Fixed-Income Strategy: Sector Rotation	Position Limits: High Stock (#)
Fixed-Income Strategy: Yield Curve	Position Limits: Low Cash (%)
Geographic Focus	Position Limits: Low Stock (#)
Inception Date	Primary Benchmark
Indexing Approach - Census Replication	Primary Exposure Type
Indexing Approach - Derivative Based	Strategy Attributes: Income-Oriented
Indexing Approach - Physical Full	Strategy Attributes: Real Return
Indexing Approach - Physical Sample	Strategy Attributes: Target Risk
Indexing Approach - Stratified Sampling	Strategy Benchmark
Indexing Approach - Structured	Strategy Name
Indexing Approach - Synthetic Replication	Strategy Primary Currency
Industry Security Allocation: Bottom-Up	Strategy Provider Firm
Industry Security Allocation: Top-Down	

Source: Morningstar Direct. Data as of 31 December 2022.

Morningstar's strategy data solution also includes a growing set of derived data points linking strategy-level and investment-level data. Some of these are derived and produced within Morningstar products including Morningstar Direct™:

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**Exhibit 3** Definition of Dataset (Derived)

Strategy Performance Source  
 Strategy Series  
 Strategy Series Marketing Name  
 Strategy Series Approach

Source: Morningstar Direct. Data as of 31 December 2022.

These derived data points further expedite users' strategy data-related research and reporting. For instance, in cases where a strategy is shared across multiple vehicles, Strategy Performance Source can identify the vehicle with the longest continuous gross performance stream and thus surface the longest available time series of performance, operations, and portfolio data for investors conducting due diligence. Morningstar's Strategy Series database associates multiple investments offered as a spectrum of solutions for investors. These strategies will share the same management team, portfolio processes, and investment philosophies. The related strategies traditionally differ by asset allocation, risk targets, and related benchmarks. Individual investments implementing these strategies will share the same Strategy Series ID as the strategies they implement.

See the Glossary for additional detail on the surveyed and derived data points, including definitions.

### **Content**

Morningstar meets investors' strategy data needs in several complementary ways:

- ▶ *Assignment of a Strategy ID:* Morningstar's Strategy ID is used to organize and surface the data associated with an investment strategy offered by a Strategy Provider Company, which Morningstar defines as the company that executes the investment approach for a particular strategy. Strategy ID is also used to identify and connect all investments run according to a shared strategy. Thus, Strategy ID can be used to group strategies and linked vehicles for research, screening, monitoring, and reporting in Morningstar products. Where appropriate, Morningstar uses Strategy ID to cascade applicable Morningstar data, analytics, and research across linked vehicles to drive greater transparency and more efficient research. Morningstar's data analysts assign Strategy ID to surveyed vehicles and, in cases where operational and portfolio data are available and sufficient, to registered vehicles as well.
- ▶ *Collection, standardization, and oversight of strategy data:* Morningstar collects and maintains the surveyed strategy data points, thus standardizing the data and ensuring it is useful in meeting investors' needs. That ongoing management is an iterative, collaborative, global process involving multiple Morningstar data, research, and product teams working with data providers and Morningstar clients across all regions. Through that effort, Morningstar continues to design derived strategy data points, migrate investment-level data points and proprietary analytics to strategy level, and otherwise reinforce the connectivity between investment-level and strategy-level data, resulting in a more robust strategy data solution directly informed by investors' needs.
- ▶ *Strategy mapping:* Strategy ID and Morningstar's strategy data management processes power strategy mapping, where Morningstar's data analysts link investments to a shared strategy offered by a Strategy Provider Company. This mapping process connects strategy-level, investment-level, and portfolio-holdings level data for investors, thus accelerating research, due diligence, monitoring, and reporting workflows in areas including risk analysis, investor risk profiling, portfolio construction, asset allocation, and security selection for platform inclusion and client portfolios. Morningstar's strategy mapping is backed by a dedicated team of data analysts and subject matter experts with deep expertise and

decades of experience in data standardization, categorization, portfolio construction, and security selection.

- ▶ *Product workflows:* Morningstar's strategy data solution is informed by investors' needs to make their day-to-day workflows more efficient and impactful. For instance, investors can use strategy data to:
  - ▶ Aggregate, organize, and associate vehicle-level data related to a specific strategy or designated group of strategies.
  - ▶ Formulate a policy portfolio consisting of an optimal mix of investment strategy sleeves to target for investment.
  - ▶ Identify strategies that pass search criteria by conducting strategy comparison.
  - ▶ Conduct focused analysis on a strategy to confirm if the manager's stated approach has translated to expected performance outcomes.
  - ▶ See the differences between a strategy's available vehicles to determine which is best to incorporate into a portfolio.
  - ▶ Insert a chosen vehicle for each strategy into a custom model and also benchmark it against the investment policy.
  - ▶ Communicate a strategy-oriented story in client materials.
  - ▶ Morningstar strives to enable seamless transition between firm, strategy, fund, and vehicle-level offerings through Strategy Hierarchy workflow design. Morningstar's rich portfolio-holdings-level data, analytics, and research complete the picture by informing a robust, market-exposure-driven view of vehicles linked to a designated strategy.

### **Inputs/Sources/Timings**

Below we detail the collection, strategy mapping, and oversight of Morningstar's strategy data solution.

**Collection & Standardization:** Morningstar collects surveyed strategy data via its Institutional Data Manager portal. IDM enforces standards regarding strategy naming, identification of the Strategy Provider Company, and other areas to ensure consistency in meeting investors' needs. Morningstar engages in proactive strategy data collection efforts, utilizes investment-level data to inform its strategy database, and responds to inbound queries regarding collection of strategy-level and investment-level data. We welcome dialogue with investors and data providers to evolve our collection and standardization processes.

**Strategy Mapping:** Morningstar's strategy-mapping efforts strive to link all investments run according to a shared strategy to the corresponding Strategy ID and associated strategy data. Investment-level

data — which Morningstar collects on a daily basis across regions and universes from registered investments' filings and surveyed investments — drives the mapping process.

Morningstar's dedicated strategy data analyst team utilizes rules-based automated tools to inform proposed mappings. As the tools are refined, they are integrated into the team's standard operating procedures. For instance, a suite of tools has been integrated into the process by building a new strategy-mapping interface into IDM along with the highest-ranking recommendations for related investments. Based on 60-plus data points, that process generates strategy-mapping proposals that are reviewed and validated by the data analyst team or Strategy Provider Firm. The combination of rules-based tools and data analyst expertise has increased Morningstar's strategy-mapping efficiency by more than 50% in recent years, with steadily improving accuracy and consistency.

Strategy mapping is also informed by Morningstar's decades of experience classifying investments across all regions, universes, and categories. The process is driven by the systematic application of Leading Guidelines, Targeted Guidelines, Performance Correlation Analysis, and additional qualitative analysis where required:

**Leading Guidelines:** The strategy-mapping process begins with application of Leading Guidelines, which are meant to be intuitive and essentially a checklist of what type of investment-level data needs to be available to inform accurate mappings. The Leading Guidelines assess investments' Global Broad Category Group, operational data, and portfolio holdings data to provide a baseline for subsequent analysis. Below, we highlight the Leading Guidelines that are applied to inform or validate a proposal to map investments to a shared strategy, as well as examples of exceptions we expect to observe and flag for data analyst review:

**Exhibit 4** Leading Guidelines

Data Point Name	Guideline for Proposal to Map Investments to Shared Strategy	Expected Exceptions
Global Broad Category Group	Must Match	None
Manager	Must Share At Least One Manager	<ul style="list-style-type: none"> <li>▶ Manager equals Team Managed or Not Disclosed</li> <li>▶ Managers named separately on individual investments are members of team that employs shared strategy across multiple universes or domiciles</li> <li>▶ Manager is employee of Strategy Provider Firm (which may not equal investment advisor or subadvisor)</li> </ul>
Primary Prospectus Benchmark or Strategy Benchmark	Should Match	<ul style="list-style-type: none"> <li>▶ Investment-level differences in Base Currency</li> <li>▶ Investment level differences in Return Type (Total Return, Net Return, Price Return)</li> </ul>
Prospectus Objective or Investment Strategy	Should Be Similar	<ul style="list-style-type: none"> <li>▶ Prospective Objective text may vary by regulatory filing or versus Investment Strategy text submitted to Morningstar</li> <li>▶ Multilingual documents for strategy distributed in multiple domiciles</li> </ul>
Fund Legal Name or Fund Standard Name	Should Be Similar	<ul style="list-style-type: none"> <li>▶ Investment-level names may vary by universe or region</li> <li>▶ Strategy Provider Firm may not equal investment level Advisor/Subadvisor Firm Name or Branding Name</li> </ul>
Similarity Score %	>85%	<ul style="list-style-type: none"> <li>▶ Master Fund/Feeder Fund or Fund of Funds structure</li> <li>▶ Global Broad Category Group does not equal Equity or Allocation (see Targeted Guidelines &amp; Performance Correlation Analysis sections for detail)</li> </ul>
Asset Allocation % (Net) ▶ Avg Equity (3yr) ▶ Avg Non-U.S. Equity (3yr) ▶ Avg US Equity (3yr) ▶ Avg Bond (3yr) ▶ Avg Non-U.S. Bond (3yr) ▶ Avg US Bond (3yr) ▶ Avg Cash (3yr) ▶ Avg Other (3yr)	Within 7 Percentage Points	<ul style="list-style-type: none"> <li>▶ Avg Other (3yr) of &gt; 7 percentage points may reflect Master Fund/Feeder Fund or Fund of Funds structure</li> </ul>

Source: Morningstar Direct. Data as of 31 December 2022.

**Targeted Guidelines:** Having applied the Leading Guidelines, Morningstar then applies Targeted Guidelines to further inform a proposal to map investments to a shared strategy in Global Broad Category Groups including Equity, Fixed Income, Allocation, and Convertibles:

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**Exhibit 5** Targeted Guidelines

Global Broad Category	Data Point Name	Guideline for Proposal to Map Investments to Shared Strategy
<b>Equity</b>	Avg Size Score (3yr)	Within 15 points of other investments
	Avg Style Score (3yr)	Within 15 points of other investments
	Avg Equity Econ Sector % (3yr)	Within 5 percentage points
	▶ Avg Basic Materials % (3yr)	
	▶ Avg Communication Services % (3yr)	
	▶ Avg Consumer Cyclical % (3yr)	
	▶ Avg Consumer Defensive % (3yr)	
	▶ Avg Energy % (3yr)	
	▶ Avg Financial Services % (3yr)	
	▶ Avg Healthcare % (3yr)	
	▶ Avg Industrials % (3yr)	
	▶ Avg Real Estate % (3yr)	
	▶ Avg Technology % (3yr)	
▶ Avg Utilities % (3yr)		
<b>Fixed Income</b>	Average Credit Quality	Within 1 letter (AAA, AA, A, BBB, BB, B, Below B)
	Avg Calculated Effective Duration (3yr)	Within 1.5 years
	Avg Calculated Modified Duration (3yr)	Within 1.5 years
	Fixed-Inc Credit Rg - Brkdown (Calc) (Long) (F1%)	Within 5 percentage points
	▶ Avg Calculated Credit Rating A % (3yr)	
	▶ Avg Calculated Credit Rating AA % (3yr)	
	▶ Avg Calculated Credit Rating AAA % (3yr)	
	▶ Avg Calculated Credit Rating B % (3yr)	
	▶ Avg Calculated Credit Rating BB % (3yr)	
	▶ Avg Calculated Credit Rating BBB % (3yr)	
▶ Avg Calculated Credit Rating Below B % (3yr)		
▶ Avg Calculated Credit Rating Not Rated % (3yr)		
<b>Allocation</b>	All Equity & Fixed-Income data points above	All Equity & Fixed-Income data points above
<b>Convertibles</b>	Avg Convertible Bond % (Net)	Within 5 percentage points
	Fixed-Inc Secondary Sector Convertible % (3yr)	Within 5 percentage points
	▶ Avg F/I Convertible Basic Materials % (3yr)	
	▶ Avg F/I Convertible Communication Services % (3yr)	
	▶ Avg F/I Convertible Consumer Cyclical % (3yr)	
	▶ Avg F/I Convertible Consumer Defensive % (3yr)	
	▶ Avg F/I Convertible Energy % (3yr)	
	▶ Avg F/I Convertible Financial Services % (3yr)	
	▶ Avg F/I Convertible Healthcare % (3yr)	
	▶ Avg F/I Convertible Industrials % (3yr)	
▶ Avg F/I Convertible Real Estate % (3yr)		
▶ Avg F/I Convertible Tech % (3yr)		

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Source: Morningstar Direct. Data as of 31 December 2022.



The three-year time period and data point ranges cited above are intended to account for reasonable differences in implementation of a strategy across varying investment types. For instance, an open-end fund employing a strategy may hold a small strategic allocation to cash to account for investor inflows and outflows, while a separate account employing the same strategy may remain 100% invested by investor mandate. Similarly, asset-allocation or security-selection changes may be implemented at varying times in a model, separate account, and collective investment trust run according to a shared strategy.

**Performance Correlation Analysis:** In cases where portfolio holdings data is not sufficient to drive the mapping process, Morningstar also uses performance correlation analysis to inform or validate a strategy assignment. These investment conditions must all be met for performance correlation analysis to be applied:

- ▶ Do not have portfolio data available, or holdings-based overlap analysis is not sufficient to validate a strategy mapping
- ▶ Do not belong to hedged Morningstar Categories
- ▶ Are not hedged share classes
- ▶ Have at least three years of continuous performance history
- ▶ Have total return calculated, either by Morningstar using net asset values and prices or by the investment provider (and then provided to Morningstar via survey)

Once the performance correlation analysis is applied to a group of investments, a three-year correlation above 0.999 is considered significant for mapping the group of investments to the same strategy.

Morningstar uses performance correlation analysis to supplement Leading and Targeted Guidelines, typically in cases where a shared strategy is implemented via portfolios that hold:

- ▶ Real assets such as properties or physical commodities
- ▶ Derivatives and collateral (also known as “synthetic” exposure) to create and manage intended market exposures
- ▶ Nonoverlapping individual bonds or other physical fixed-income securities to create and manage intended market exposures

Thus, performance correlation analysis is used most extensively in the Property, Commodities, and Alternative Global Broad Category Groups.

Morningstar maintains the Miscellaneous Global Broad Category Group for strategies that may not be an appropriate fit for the Equity, Fixed Income, Allocation, Property, Commodities, or Alternative Global Broad Category groups. As of fourth-quarter 2022, these strategies comprised approximately 12% of the overall number of investments in scope for Morningstar’s 2022 strategy-mapping expansion. The Miscellaneous Global Broad Category Group reflects the natural, ongoing evolution of investments and

Morningstar's stance that it would generally need to see a critical mass of similar investments (usually greater than 30) to consider creating a distinct category for those investments.

In its strategy mapping, Morningstar's data analysts and subject matter experts analyze the investments within the Miscellaneous Global Category Group to identify similar subgroups of investments that are evolving in particular regions or universes. The team collaborates with data providers, Strategy Provider Companies, and internal Morningstar teams including Research and Managed Investment Data to better understand investors' use of investments employing a given strategy, then determines how to apply the Leading Guidelines, Targeted Guidelines, and/or Performance Correlation Analysis appropriately and consistently.

**Maintenance and Oversight:** Morningstar's strategy data team leads the oversight and maintenance of Morningstar's strategy data solution using a set of standard operating procedures and quantitative tools. On a daily basis, the team reviews inbound items driven from IDM, including requests for the collection of strategy data, assignment of Strategy IDs, and review of strategy data. A number of automatic triggers prompt daily strategy-mapping reviews, including vehicle-level changes in Morningstar Category, Advisor, and Subadvisor. All such queries and additional proposed strategy mappings are reviewed daily by the team, with a set of formal quality checks run monthly.

Client queries, including requests for and appeals of strategy mapping, should be routed to the team's service mailbox ([strategydata@morningstar.com](mailto:strategydata@morningstar.com)) and are reviewed for follow-up action within 24 hours. The team's ongoing collaboration with its subject matter experts and stakeholders across Morningstar's Data, Research, and Product teams will continue to drive the solution's evolution and expansion in coming years. In its oversight role, Morningstar's strategy data team ultimately owns the decisions made regarding methodology, data point creation, collection efforts, strategy mapping, and the resolution of review requests.

### **Markets & Universes**

As of year-end 2022, the global reach of Morningstar's strategy mapping spans:

- ▶ 10 operational regions
- ▶ 45 domiciles
- ▶ Eight security types
- ▶ 137,000-plus investments
- ▶ 110,000-plus strategies

Strategy ID Coverage across the respective domiciles and security types below averaged 98.7% as of December 2022:

**Exhibit 6** Coverage as of 31 December 2022

Operational Region	Domicile Name	Security Type								Strategy Coverage (Domicile level)	Strategy Coverage % Ratio (Domicile Level)
		Open-end Fund	ETF	Separately Managed Account	Closed-End Fund	Model Portfolio	Canadian Pool Fund	Collective Investment Trust	529		
Latin America	Brazil	✓	✓							18,782	99.5
Latin America	Chile	✓	✓		✓					1,111	99.4
Latin America	Mexico	✓	✓							686	100
North America	United States	✓	✓	✓	✓	✓		✓	✓	31,473	99.8
North America	Canada	✓	✓	✓	✓	✓	✓			6,522	99.8
ASIA	Malaysia	✓	✓							1,070	99.9
ASIA	Thailand	✓	✓		✓					1,817	98.5
ASIA	Taiwan	✓	✓							1,032	99.9
ASIA	South Korea	✓	✓		✓					9,607	99.0
ASIA	China	✓	✓		✓					9,334	98.0
ASIA	Hong Kong	✓	✓	✓	✓					711	99.2
ASIA	Singapore	✓	✓	✓						320	98.5
ASIA	Japan	✓	✓	✓						8,446	99.8
ASIA	India	✓	✓							1,351	99.1
AUSTRALASIA	New Zealand	✓	✓	✓	✓					396	99.7
AUSTRALASIA	Australia	✓	✓	✓	✓	✓				3,514	99.8
EMEA-Africa	Namibia	✓								80	100
EMEA-Africa	South Africa	✓	✓							1,807	99.3
EMEA-Central	Liechtenstein	✓	✓							733	97.7
EMEA-Central	Switzerland	✓	✓		✓					1,614	96.7
EMEA-Central	Austria	✓								950	99.3
EMEA-Central	Germany	✓	✓							2,061	99.1
EMEA-Middle East	United Arab Emirates	✓	✓							33	91.7
EMEA-Middle East	Oman	✓								8	100
EMEA-Middle East	Saudi Arabia	✓	✓							126	100
EMEA-Middle East	Bahrain	✓								9	100
EMEA-Middle East	Kuwait	✓								17	100
EMEA-Middle East	Qatar	✓								1	100
EMEA-Nordic	Sweden	✓	✓		✓					811	99.5
EMEA-Nordic	Finland	✓	✓							533	99.1
EMEA-Nordic	Norway	✓	✓							401	97.6
EMEA-Nordic	Denmark	✓	✓							783	89.1
EMEA-South	San Marino	✓								4	100
EMEA-South	Italy	✓			✓					1,131	97.6
EMEA-South	Portugal	✓								174	100
EMEA-South	Spain	✓	✓							1,747	98.8
EMEA-West	Belgium	✓			✓					687	99.0
EMEA-West	Monaco	✓								18	100
EMEA-West	France	✓	✓		✓					3,929	92.7
EMEA-West	Guernsey	✓			✓					313	100
EMEA-West	Luxembourg	✓	✓	✓	✓					11,988	98.5
EMEA-West	Netherlands	✓	✓		✓					478	99.6
EMEA-West	Jersey	✓	✓		✓					375	98.9
EMEA-West	Ireland	✓	✓		✓					5,093	98.7
EMEA-West	United Kingdom	✓	✓	✓	✓	✓				5,041	98.6
<b>Average Strategy Coverage Ratio</b>											<b>98.7</b>

Source: Morningstar Direct. Data as of 31 December 2022.

Morningstar's subsequent expansion of strategy mapping and strategy data collection efforts across regions, domiciles, and security types will be informed by ongoing dialogue with investors and data providers, and underlying data availability.

### **Limitations/Exceptions**

Morningstar strives to be as global as possible in its strategy data collection and strategy mapping efforts while acknowledging investors' regional market conventions and structures where appropriate.

Here are several areas where Morningstar continues to align its strategy data solutions:

- ▶ **Target-risk and target-date strategies.** Vehicles employing shared target-risk or target-date strategies were exempted from Morningstar's 2022 global strategy-mapping expansion because of the concomitant development of Morningstar's Strategy Series database. The Strategy Series database builds upon previous methodologies used to associate multiple investments offered as a spectrum of solutions for investors. As Morningstar expands Strategy Series mapping across additional regions and universes, it will rationalize pre-existing groupings for target-risk and target-date vehicles.
- ▶ **Evolving underlying data structures to reinforce strategy data-related workflows.** Morningstar's strategy database is intrinsically related to other Managed Investment Data content, in terms of investor use, investor workflows, and Morningstar methodologies. Morningstar's strategy glide-path data, for example, is related to Strategy Series, and investors research Strategy Series are likely to surface strategy glide-path data in their due diligence research and reporting. Yet strategy glide-path data is not yet formally linked to Strategy Series in Morningstar's database structure. Similarly, Strategy Performance Source is a powerful means of surfacing the longest available time series of performance, operations, and portfolio data across linked vehicles employing a shared strategy, but it has not yet been fully centralized in Morningstar's strategy database structure. As strategy-related workflows continue to gain market prominence, Morningstar's investor workflow analysis will inform ongoing evolution in its strategy data structures.
- ▶ **Strategy mapping of currency-hedged and nonhedged share classes of the same fund in European markets.** In European markets, currency-hedged and nonhedged share classes are mapped under the same strategy. This feature aligns with Morningstar's strategy definition by capturing the common investment decision-making process, the common set of economic or risk exposures, and the similar performance experience of investors in a market shaped by UCITS regulatory framework. Within the UCITS regulatory framework, currency-hedged and unhedged portfolios are often distributed as share classes of the same investments, more often reflecting investors' preference for multiple currency exposures than fundamental differences in a strategy's core investment decision-making process and portfolio construction approach. In non-European markets, the currency-hedged and nonhedged share class structure within the same fund is less pervasive both from an industry and regulatory perspective and thus more conducive to Morningstar's definition of unhedged and currency-hedged investments as employing two distinct strategies. In dialogue with investors and data providers, Morningstar continues to assess how it could further align its strategy-mapping methodology across all regions.

**Data Content History**

Version: 1.0    31 December 2022    Original publication

## Glossary

Below we provide the Morningstar definitions for several data points that are integral to our Strategy data efforts and that in our experience may have varying definitions across our data provider clients:

<b>Advisor</b>	The company that takes primary responsibility for managing the fund.
<b>Domicile</b>	The country where a fund is legally registered.
<b>Fund/FundID</b>	This is the Morningstar ID for the investment, which is sometimes called the distinct portfolio level. All of the share classes of an investment have a Share Class ID.
<b>Share class/SecID</b>	The Morningstar identifier for a share class of an investment.
<b>Subadvisor</b>	In some cases, the advisor employs another company, called the subadvisor, to handle the fund's day-to-day management. In these instances, the portfolio manager generally works for the fund's subadvisor and not the advisor.

## Morningstar Strategy Data – Surveyed Data points

Below we provide the Morningstar definitions for our surveyed Strategy data points, with an indication of whether they are mandatory or optional for inclusion in our Strategy database:

### Asset-Allocation Strategy: Strategic

**Mandatory**

An indication of whether the strategy adheres to an established mix of asset class' securities based on their expected rates of return market exposure.

### Asset-Allocation Strategy: Tactical

**Mandatory**

An indication of whether the strategy allows the flexibility to deviate from its strategic asset allocation as market opportunities and circumstances change.

### Asset Class

**Mandatory**

The primary asset-class exposure or driver of returns.

### Assets Under Advisement

**Optional**

The nominal amount of invested assets that follow the strategy but are not managed under the control of the investment provider.

### Assets Under Management

**Optional**

The nominal amount of invested assets that track the strategy and are managed by the investment provider. These represent discretionary assets that are under the fiduciary (or equivalent) control of the portfolio management team constructing the strategy.

### Country Security Allocation: Bottom-Up

**Mandatory**

An indication of whether the manager focuses on company-specific fundamentals when allocating assets across countries.

### Country Security Allocation: Top-Down

**Mandatory**

An indication of whether the manager focuses on macroeconomic indicators or themes when allocating assets across countries.

### Fixed-Income Strategy: Individual Security Selection

**Mandatory**

An indication of whether the portfolio manager aims to increase value by changing the composition of the portfolio through the analysis and purchase of individual fixed-income holdings.

### Fixed-Income Strategy: Interest-Rate Expectation

**Mandatory**

An indication of whether the investment strategy expects interest-rate bets and duration exposure to be a driving contributor to excess return.

**Fixed-Income Strategy: Option-Adjusted Spread Based****Mandatory**

An indication of whether the investment strategy aims to maximize the increase in a non-Treasury bond's price when option-adjusted spreads change in the marketplace.

**Fixed-Income Strategy: Sector Rotation****Mandatory**

An indication of whether the investment strategy shifts the portfolio out of a sector or industry in an effort to take advantage of the performance of certain sectors or industries.

**Fixed-Income Strategy: Yield Curve****Mandatory**

An indication of whether the investment strategy takes a strategic position along the yield curve.

**Geographic Focus****Mandatory**

The starting scope of the investment process on a global basis. The distinction is based on the exposure of the underlying securities within the strategy used, not the domicile of the investments itself.

**Inception Date****Mandatory**

The date the firm first launched the strategy, available as any type of vehicle. This date can be the same as the vehicle inception date.

**Indexing Approach - Census Replication****Mandatory**

An indication of whether the strategy aims to fully replicate a stock index borrowing from any of the methods used in census replication.

**Indexing Approach - Derivative-Based****Mandatory**

An indication whether the index-tracking portfolios using derivatives-based replication primarily hold cash and exchange-traded derivatives. Some portfolios combining exchange-traded derivatives and over-the-counter derivatives are also considered derivatives-based. This replication method includes products that track indexes composed of exchange-traded derivatives, such as those tracking commodity indexes. Products tracking hedge fund or other strategy indexes through combinations of derivatives are considered derivatives-based. Some optimized replication techniques combining physical holdings and derivatives are considered derivatives-based because of a majority of exposure being gained through derivatives.

**Indexing Approach - Physical Full****Mandatory**

An index-tracking product employing full physical replication will own all of the securities (not including derivatives) and physical commodities of the underlying index in proportion to the weights within the index. Funds with minimal exposure to cash, and very small exposures to derivatives tracking the index of the portfolio, may also be treated as products using full physical replication.



**Indexing Approach - Physical Sample****Mandatory**

An indication of whether the investment strategy aims to own a representative set of index components in order to achieve the objective of tracking the stated benchmark along with a limited number of securities outside of the index.

**Indexing Approach - Stratified Sampling****Mandatory**

An indication of whether the strategy separates securities into groups according to specific characteristics, then randomly chooses from each sector to achieve replication.

**Indexing Approach - Structured****Mandatory**

An indication of whether the strategy aims to make improvements to index fund management, possibly using active management. Also known as enhanced indexing.

**Indexing Approach - Synthetic Replication****Mandatory**

Portfolios using synthetic replication enter into one or more over-the-counter derivatives to gain direct exposure to the index that the product is tracking. The OTC derivative(s) deliver the return of the index less certain fees or premiums. The portfolios of funds using synthetic replication report the OTC derivative(s) (generally a swap, forward agreement, or access product) and collateral within financial statements in certain situations. The collateral holdings of products using synthetic replication will frequently contain securities unrelated to the return of the index. Note: While the term synthetic exposure denotes economic exposures gained through derivative contracts, the term synthetic replication only connotes index-tracking products gaining economic exposure through OTC derivatives.

**Industry Security Allocation: Bottom-Up****Mandatory**

An indication of whether the manager focuses on company-specific fundamentals when allocating assets across industries.

**Industry Security Allocation: Top-Down****Mandatory**

An indication of whether the manager focuses on macroeconomic indicators or themes when allocating assets across industries.

**Investment Analysis Process: Fundamental****Mandatory**

An indication of whether the strategy uses bottom-up analysis to determine the intrinsic value of securities.

**Investment Analysis Process: Quantitative****Mandatory**

An indication of whether the strategy uses machine-learning principals to identify trading opportunities.

**Investment Analysis Process: Technical****Mandatory**

An indication of whether the strategy uses statistical trends and patterns of price movements to determine when to buy and sell securities.

<b>Investment Decision-Making Process</b>	<b>Optional</b>
The detailed narrative of the method to select securities or portfolio investments within an investment strategy.	
<b>Investment Philosophy</b>	<b>Optional</b>
Extensive description of the particular system used within an investment strategy. The reasoning behind the creation of the investment strategy.	
<b>Management Approach</b>	<b>Mandatory</b>
The strategy a management team uses to direct its investment process. This attribute indicates whether this strategy is active, passive, or an enhanced index.	
<b>Percentage From External Research</b>	<b>Optional</b>
An estimate by the firm of how much of its investment decision-making process utilizes external research.	
<b>Portfolio Construction</b>	<b>Optional</b>
Narrative description of the tactics used to make final investment selections. Summarizes the investment decision-making process.	
<b>Position Limits: High Cash (%)</b>	<b>Mandatory</b>
The highest cash position that the investment is allowed, expressed in terms of percent.	
<b>Position Limits: High Stock (#)</b>	<b>Mandatory</b>
The maximum number of stock positions that the investment is allowed.	
<b>Position Limits: Low Cash (%)</b>	<b>Mandatory</b>
The lowest cash position that the investment is allowed, expressed in terms of percent.	
<b>Position Limits: Low Stock (#)</b>	<b>Mandatory</b>
The minimum number of stock positions that the investment is allowed.	
<b>Primary Exposure Type</b>	<b>Mandatory</b>
The type of investments used to gain exposure to the strategy's asset class and geographic attributes.	
<b>Strategy Attributes: Income-Oriented</b>	<b>Mandatory</b>
An indication of whether the strategy aims to generate a regular payment stream for investors.	
<b>Strategy Attributes: Real Return</b>	<b>Mandatory</b>
An indication of whether the strategy aims to achieve a defined level of return on the portfolio after inflation is taken into account.	

**Strategy Attributes: Target Risk****Mandatory**

An indication of whether the strategy aims to maintain a consistent level of risk over time.

**Strategy Benchmark****Mandatory**

The investment strategy's primary benchmark(s), as indicated by the firm.

**Strategy Description****Optional**

The high-level approach that is used to define the investment policy for investment management. A strategy is independent of an investment vehicle and can be used for discretionary management, nondiscretionary management, or index construction.

**Strategy Name****Mandatory**

Name of investment offering applied to linked vehicles, and available investment options associated with a single investment provider.

**Strategy Primary Currency****Mandatory**

The primary currency in which the strategy is implemented, prior to any currency-hedging decisions.

**Strategy Provider Firm****Mandatory**

The company that executes the investment approach for a particular strategy.

## **Morningstar Strategy Data – Derived Data Points**

Below we provide the Morningstar definitions for derived Strategy data points:

### **Strategy Performance Source**

The name of the underlying investment vehicle or track record from which the strategy's representative performance and Modern Portfolio Theory statistics are derived.

### **Strategy Series**

The Morningstar identifier to associate multiple investments offered as a spectrum of solutions for investors. These strategies will share the same management team, portfolio processes, and investment philosophies. The related strategies traditionally differ by asset allocation, risk targets, and related benchmarks. Individual investments implementing these strategies will share the same Strategy Series ID as the strategies they implement.

### **Strategy Series Approach**

A standardized description of the relationship between strategies linked within a strategy series; these include Risk Spectrum, Retirement Glide Path, College Glide Path, Municipal-Bond Portfolio Series, or Stand-Alone.

### **Strategy Series Marketing Name**

The name of the strategy series. The strategy series associates multiple investments offered as a spectrum of solutions for investors.

## Frequently Asked Questions

### Strategy Data Collection & Strategy Mapping Requests

**How can my firm provide strategy data to Morningstar or request Morningstar create a new strategy for my firm?**

Email [strategydata@morningstar.com](mailto:strategydata@morningstar.com) with the subject "Request to Supply Data to IDM" and provide your contact information in the email body. Providers can also self-generate strategies in IDM.

**Does my firm have to submit data for all of Morningstar's strategy data points?**

No. Please refer to the Glossary for details on which surveyed data points are mandatory or optional.

**How can I view, review, maintain, or update data for existing strategies?**

Go into Morningstar Institutional Data Manager (Morningstar IDM) "Strategy" Menu and from Morningstar IDM "Strategy" Menu click into the strategy "Overview" page.

**Where can I view all my firm's strategies and linked vehicles?**

Go into Morningstar IDM Strategy" Menu click into the strategy "Linked Vehicles" page.

**Who is able to submit or change my firm's strategy data?**

Within Morningstar's strategy methodology, the Strategy Provider Company is the primary firm that is able to submit or change the strategy data for its respective vehicles. In very limited cases, most often where an advisor/subadvisor structure is utilized, and only in agreement with the firms involved, Morningstar can assign access rights to more than one firm.

**How do I request Morningstar review, correct, or reassign the Strategy ID assignment, Strategy Provider Firm, linked vehicles, or other strategy data for my firm?**

Either email the request to [strategydata@morningstar.com](mailto:strategydata@morningstar.com) or submit the strategy-mapping change request in IDM within the Strategy Linked Vehicle page.

In its oversight role, Morningstar's strategy data analyst team's primary objective in reviewing requests is to apply its strategy data methodology as consistently and transparently as possible. Where appropriate, Morningstar's strategy data analyst team may consult with the requesting firm, Strategy Provider Company, and internal Morningstar teams, including but not limited to Managed Investment Data & Research, to determine the most appropriate resolution of each request.

## Strategy Data Methodology

### **Can a strategy have multiple strategy names?**

No, each strategy has a single, distinct strategy name. Linked vehicles employing a shared strategy can have different or varying names to reflect differences in branding, distribution channel, or other firm-level naming conventions. Those vehicles will be linked to the strategy through Morningstar's strategy-mapping analysis.

### **How are assets following a strategy determined? Is it the summation of all linked vehicles?**

No, there may be discrepancies between the total Strategy Assets Under Management and Assets Under Advisement reported to Morningstar by the Strategy Provider Company and the summation of vehicle-level Assets Under Management or Assets Under Advisement available for each linked vehicle. For registered investment vehicles such as open-end funds, Morningstar collects Assets Under Management data from regulatory filings. For nonregistered investments (such as models, separate accounts, collective investment trusts, pooled funds, and hedge funds), Morningstar collects Assets Under Management and Assets Under Advisement data via survey from the Strategy Provider Company. Differences in those collection sources, timing, and reporting currencies may drive discrepancies between the vehicle-level and strategy-level assets that data investors may see in Morningstar products. Industry practices regarding reporting of Assets Under Management and Assets Under Advisement continue to evolve and will continue to inform Morningstar's data collection.

### **In its strategy mapping Leading Guidelines, why does Morningstar use a 7-percentage-point Asset Allocation % threshold? Why not a lower (for example, 5-percentage-point) or higher (for example, 10-percentage-point) threshold?**

In defining its Leading Guidelines, Morningstar's strategy data analyst team reviewed multiple peer groups of investments linked by operational data (such as Global Broad Category, Manager, Fund Name, Strategy or Primary Prospectus Benchmark, Investment Objective) to understand what structural differences in vehicle-level implementation could drive material differences in the portfolios employing a shared strategy. Those discrepancies most often reflected implementation-related differences in areas including rebalancing policy, drift management, use of frictional cash (to manage client account-level inflows and outflows), or usage of Master/Feeder and fund-of-funds structures. In such cases, portfolio allocation differences of 1 to 5 percentage points were quite common, differences of 5 to 7 percentage points were observed but tapered off sharply, and with rare exception, differences of greater than 7 percentage points reflected the implementation of different strategies.

### **What impact does Morningstar strategy data have on proprietary ratings such as the Morningstar Rating™, Morningstar Analyst Rating™, and Morningstar Quantitative Rating™?**

Morningstar ratings are assigned at the vehicle level to account for the similarities and differences that affect distinct vehicle types, universes, and regional categories. Thus, linked vehicles employing a shared strategy may garner varying ratings. Strategy-level data is not an input into the Morningstar Rating. Analyst-assigned People and Process Pillars (inputs for the Morningstar Analyst Rating and Morningstar Quantitative Rating) will be inherited by the other eligible Fund IDs linked to a shared Strategy ID.

**How can I learn more about Strategy Hierarchy and related strategy data workflows in Morningstar Direct?**

Reach out to your firm's Morningstar Client Success Manager or go to the Morningstar Direct Product Page to request a trial.



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