
Morningstar Quantitative Rating™ for Funds

Input Data Methodology

Morningstar Quantitative Research

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Introduction

The Morningstar Quantitative Rating™ for funds generates analyst-driven insights for all open-end funds. By ranking funds on a comparable scale, our system lets you quickly see Morningstar's relative opinion for each fund's Parent, People, Performance, Process, and Price Pillars.

In total, 180-plus attributes and 10,000-plus rating updates were considered in order to train the random forest model. After numerous iterations, only the attributes most crucial to classifying each pillar rating were retained. The remaining 46 input variables home in on the analyst decision-making process across the open-end or separate-account universe.

Input Data Definitions

The Morningstar Quantitative Rating™ for funds uses 46 different input variables to determine the three Morningstar Quantitative Pillar ratings and the Morningstar Quantitative Rating. We define the calculations for each factor below.

Actual Management Fee Rank

The actual management fee is the most recently reported actual percentage that was deducted from an investment's average net assets to pay the investment's management. The actual management fee is ranked by Morningstar Category.

Alpha 10-Year — Category Average

A measure of the difference between a portfolio's actual return and its expected performance, given its level of risk as measured by beta. The Alpha 10-Year — Category Average is calculated over a 10-year period using monthly returns compared with the fund's category average return.

Alpha Five-Year — Category Average

A measure of the difference between a portfolio's actual return and its expected performance, given its level of risk as measured by beta. The Alpha Five-Year — Category Average is calculated over a five-year period using monthly returns compared with the fund's category average return.

Alpha Five-Year — Category Benchmark

A measure of the difference between a portfolio's actual return and its expected performance, given its level of risk as measured by beta. The Alpha Five-Year — Category Benchmark is calculated over a five-year period using monthly returns compared with the fund's category benchmark.

Asset-Weighted Manager Tenure (Longest)

The tenure number at the branding company level is an asset-weighted average of the longest manager tenure of each fund assigned to the branding company. The tenure number at the fund level is the number of years the current manager has been on the fund. For funds with more than one manager, the tenure of the manager who has been with the fund the longest is used in the calculation.

Average Actual Management Fee Rank

The actual management fee rank at the branding company level is an equal-weighted average of the actual management fee ranks of each share class assigned to the branding company. The actual management fee is the most recently reported actual percentage that was deducted from an investment's average net assets to pay the investment's management. The actual management fee is ranked by Morningstar Category.

Average Manager Tenure

The tenure number at the branding company level is an equal-weighted average of the longest manager tenure of each fund assigned to the branding company. The tenure number at the fund level is the number of years the current manager has been on the fund. For funds with more than one manager, the tenure of the manager who has been with the fund the longest is used in the calculation.

Average Maximum Management Fee Rank

The maximum management fee rank at the branding company level is an equal-weighted average of the max management fee ranks of each share class assigned to the branding company. The max management fee is the maximum percentage deducted from a fund's average net assets to pay an advisor or subadvisor. It is collected from the prospectus. The max management fee is ranked by Morningstar Category.

Average Morningstar Rating 10-Year

The Morningstar Rating 10-Year at the branding company level is an equal-weighted average of the Morningstar Rating 10-Year of each fund share class assigned to the branding company. The Morningstar Rating brings load adjustments, performance (returns), and risk together into one evaluation. To determine a fund's Morningstar Rating for a given time period (three, five, or 10 years), the fund's risk-adjusted return is plotted on a bell curve: If the fund scores in the top 10% of its Morningstar Category, it receives 5 stars (highest); if it falls in the next 22.5%, it receives 4 stars (above average); a place in the middle 35% earns 3 stars (average); if it's lower still, in the next 22.5%, it receives 2 stars (below average); and landing in the bottom 10% gets only 1 star (lowest). The Overall Morningstar Rating is a weighted average of the available three-, five-, and 10-year ratings.

Average Morningstar Rating Five-Year

The Morningstar Rating Five-Year at the branding company level is an equal-weighted average of the Morningstar Rating Five-Year of each fund share class assigned to the branding company. The Morningstar Rating brings load adjustments, performance (returns), and risk together into one evaluation. To determine a fund's Morningstar Rating for a given time period (three, five, or 10 years),

the fund's risk-adjusted return is plotted on a bell curve: If the fund scores in the top 10% of its Morningstar Category, it receives 5 stars (highest); if it falls in the next 22.5%, it receives 4 stars (above average); a place in the middle 35% earns 3 stars (average); if it's lower still, in the next 22.5%, it receives 2 stars (below average); and landing in the bottom 10% gets only 1 star (lowest). The Overall Morningstar Rating is a weighted average of the available three-, five-, and 10-year ratings.

Average Morningstar Rating Three-Year

The Morningstar Rating Three-Year at the branding company level is an equal-weighted average of the Morningstar Rating Three-Year of each fund share class assigned to the branding company. The Morningstar Rating brings load adjustments, performance (returns), and risk together into one evaluation. To determine a fund's Morningstar Rating for a given time period (three, five, or 10 years), the fund's risk-adjusted return is plotted on a bell curve: If the fund scores in the top 10% of its Morningstar Category, it receives 5 stars (highest); if it falls in the next 22.5%, it receives 4 stars (above average); a place in the middle 35% earns 3 stars (average); if it's lower still, in the next 22.5%, it receives 2 stars (below average); and landing in the bottom 10% gets only 1 star (lowest). The Overall Morningstar Rating is a weighted average of the available three-, five-, and 10-year ratings.

Average Overall Morningstar Rating

The Overall Morningstar Rating at the branding company level is an equal-weighted average of the Overall Morningstar Rating of each fund share class assigned to the branding company. The Morningstar Rating brings load adjustments, performance (returns), and risk together into one evaluation. To determine a fund's Morningstar Rating for a given time period (three, five, or 10 years), the fund's risk-adjusted return is plotted on a bell curve: If the fund scores in the top 10% of its Morningstar Category, it receives 5 stars (highest); if it falls in the next 22.5%, it receives 4 stars (above average); a place in the middle 35% earns 3 stars (average); if it's lower still, in the next 22.5%, it receives 2 stars (below average); and landing in the bottom 10% gets only 1 star (lowest). The Overall Morningstar Rating is a weighted average of the available three-, five-, and 10-year ratings.

Average Net Expense Ratio Equivalent Rank

The net expense ratio equivalent rank at the branding company level is an equal-weighted average of the net expense ratio equivalent ranks of each share class assigned to the branding company. The net expense ratio equivalent data point is compiled by combining various annual report fee statistics. The net expense ratio equivalent is then ranked by Fee Level Distribution group assignment. If a share class is not assigned to a Fee Level Distribution group, then it is ranked within its Morningstar Category. This logic is described in detail on Page 8.

Average Number of Months Since a Manager Change

The tenure number at the branding company level is an equal-weighted average of the number of months since a manager change at each fund assigned to the branding company.

Average Portfolio Transparency TTM

The average portfolio transparency is the equal-weighted average of the percentage of months a portfolio was reported for each fund assigned to the branding company.

Average Prospectus Operating Expense Ratio Equivalent Rank

The operating expense equivalent rank at the branding company level is an equal-weighted average of the operating expense equivalent ranks of each share class assigned to the branding company. The operating expense equivalent data point is taken as given in the prospectus. When not available, we use the difference between the net expense ratio equivalent and the actual management fee from the annual report. The operating expense ratio equivalent is then ranked by Fee Level Distribution group assignment. If a share class is not assigned to a Fee Level Distribution group, then it is ranked within its Morningstar Category. This logic is described in detail on Page 8.

Beta Three-Year—Category Average

Beta is a measure of the portfolio's sensitivity to market movements. The higher the beta, the higher is the portfolio's market-related risk. The benchmark we use for this purpose is the Morningstar Category average. We calculate the beta using the prior three years of data.

Down Capture Three-Year—Category Average

Down capture measures the ratio of the portfolio's performance relative to the broad market benchmark's returns during periods of market weakness. The benchmark we use for this purpose is the Morningstar Category average. We calculate the down-capture ratio using the prior three years of data.

Firm Age

The number of months that a firm has been running open-end funds or exchange-traded funds. This is defined by the inception date of the oldest fund.

Index Fund

This is a categorical, dummy variable that indicates whether or not a fund tracks an index. While an index typically has a much larger portfolio than a mutual fund, the fund's management may study the index's movements to develop a representative sampling and match sectors appropriately.

Information Ratio 10-Year—Category Average

Information ratio is a risk-adjusted performance indicator that measures the ratio of portfolio returns above the returns of a benchmark relative to the volatility of those returns. The benchmark we use for this purpose is the category average. We calculate the information ratio using the prior 10 years of data.

Information Ratio Five-Year—Category Average

Information ratio is a risk-adjusted performance indicator that measures the ratio of portfolio returns above the returns of a benchmark relative to the volatility of those returns. The benchmark we use for this purpose is the category average. We calculate the information ratio using the prior five years of data.

Information Ratio Five-Year—Category Benchmark

Information ratio is a risk-adjusted performance indicator that measures the ratio of portfolio returns above the returns of a benchmark relative to the volatility of those returns. The benchmark we use for this purpose is the category benchmark. We calculate the information ratio using the prior five years of data.

Longest Tenure

The tenure in months of the manager who has been with the fund the longest.

Manager Excess Return—Three Year

At the fund level, the Manager Excess Return—Three Year is the equal-weighted average of the three-year manager excess returns for each named portfolio manager assigned to the fund. The logic for the manager excess return is detailed on Page 12.

Manager Excess Return—Five Year

At the fund level, the Manager Excess Return—Five Year is the equal-weighted average of the five-year manager excess returns for each named portfolio manager assigned to the fund. The logic for the manager excess return is detailed on Page 12.

Manager Experience

The number of months since the current portfolio manager has been named to the investment product. For products with more than one manager, we calculate an equal-weighted average of each manager's experience.

Manager Investment

This is a categorical, dummy variable that indicates whether or not the fund management has invested its own money in the fund. Only one fund manager needs to invest \$1 in the fund for the Manager Investment designation.

Manager Investment—\$1 Million

This is a categorical, dummy variable that indicates whether or not the fund management has invested at least \$1 million of its own money in the fund. Only one fund manager needs to invest \$1 million in the fund for the Manager Investment designation.

Maximum Management Fee Rank

The maximum management fee is the maximum percentage deducted from a fund's average net assets to pay an advisor or subadvisor. It is collected from the prospectus. The max management fee is ranked by Morningstar Category.

Morningstar Rating Five-Year

The Morningstar Rating Five-Year at the fund share class level brings load adjustments, performance (returns), and risk together into one evaluation to determine a fund's Morningstar Rating over a period of five years. The fund's risk-adjusted return is plotted on a bell curve: If the fund scores in the top 10% of its Morningstar Category, it receives 5 stars (highest); if it falls in the next 22.5%, it receives 4 stars (above average); a place in the middle 35% earns 3 stars (average); if it's lower still, in the next 22.5%, it receives 2 stars (below average); and landing in the bottom 10% gets only 1 star (lowest).

Morningstar Rating Three-Year

The Morningstar Rating Three-Year at the fund share class level brings load adjustments, performance (returns), and risk together into one evaluation to determine a fund's Morningstar Rating over a period of three years. The fund's risk-adjusted return is plotted on a bell curve: If the fund scores in the top 10% of its Morningstar Category, it receives 5 stars (highest); if it falls in the next 22.5%, it receives 4 stars (above average); a place in the middle 35% earns 3 stars (average); if it's lower still, in the next 22.5%, it receives 2 stars (below average); and landing in the bottom 10% gets only 1 star (lowest).

Overall Morningstar Rating

The Overall Morningstar Rating at the fund share-class level is a weighted average of the available three- and five-year ratings.

Net Expense Ratio Equivalent Rank

The net expense ratio equivalent data point is compiled by combining various annual report fee statistics. The logic is described in detail on Page 8. The net expense ratio equivalent is then ranked by Fee Level Distribution group assignment. If a share class is not assigned to a Fee Level Distribution group, then it is ranked within its Morningstar Category.

Number of Holdings

The net number of holdings in the portfolio.

Number of Months Since Last Management Change

This is the number of months since a named portfolio manager has left the fund.

Percentage Assets in Top 10 Holdings

The aggregate assets of the fund's top 10 portfolio holdings. This figure is meant to be a measure of portfolio risk. Specifically, the higher the percentage, the more concentrated the fund is in a few companies or issues.

Percentage Assets Team-Managed

This is the percentage of assets under management managed by more than one portfolio manager assigned to the branding company.

Percentage Funds With a Management Change TTM

This is the equal-weighted average of the number of funds that have had a manager leave within the past 12 months assigned to the branding company.

Retention Five-Year

This rate measures what percentage of a firm's portfolio managers stayed with the firm during the past five calendar years. The calculation ignores a manager moving from fund to fund within the same shop. The calculation is done at the branding level.

Risk-Adjusted Success Ratio Three-, Five-, and 10-Year

This success ratio measures the percentage of a branding company's open-end mutual funds with a Morningstar Risk-Adjusted Return category rank of less than 50 over the three-, five-, and 10-year periods through the previous month's end. Since this ratio is based on Morningstar Risk-Adjusted Returns, it reflects funds' risk-adjusted returns relative to Morningstar Category peers.

Sharpe Ratio Five-Year—Category Average

A risk-adjusted measure calculated by using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe ratio, the better the fund's historical risk-adjusted performance. The excess return is calculated net of the category average over the prior five years.

Success Ratio Three-, Five-, and 10-Year

This success ratio measures the percentage of a branding company's open-end mutual funds with a Morningstar Category rank of less than 50 over the three-, five-, and 10-year periods through the previous month's end.

Team Managed

This is a categorical, dummy variable that indicates whether or not a fund is managed by more than one portfolio manager.

Team Size

This is the number of named portfolio managers on a fund.

Trailing Five-Year Return Rank

The placement of a particular fund share class in a ranking, with 1 being the highest percentile and 100 the lowest, of its Morningstar Category peers in terms of total returns over the prior five years.

Expense Data

Expense data points are important to determining the Morningstar Quantitative Rating. However, fee data (for example, net expense ratio) are not identical universally in either their naming or reporting conventions. For our purposes, we need to identify data points that are conceptually consistent. By that, we mean that we can think of net expense ratio in the United States, in concept, as the same thing as management expense ratio in Canada.

Global Equivalent Net Expense Ratio

The net expense ratio data point definition should be consistent with Morningstar's expense ratio definition: "The annual fee that all funds or ETFs charge their shareholders. It expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund."

Moreover, this data point definition should hold across boundaries. The following is the logic for calculating a globally consistent expense ratio. Exhibit 1 outlines the calculation for an individual fund's net expense ratio equivalent (NER_{eq}).

Exhibit 1 Global Net Expense Ratio Equivalent

Single Fund:

Net Expense Ratio Equivalent (NER_{eq}) uses the following logic:

Calculation	Domicile
Indirect Cost Ratio or Management Expense Ratio (MER)	Australia
MER	Canada or New Zealand
Representative Cost or Ongoing Charge + Performance Fee	Europe or United Kingdom
Japan After Tax Total Expense Ratio	Japan
Net Expense Ratio (NER)	United States
NER	Else

Fund of Funds:

Net Expense Ratio Equivalent (NER_{eq}) = $FoFexp_i + \sum_{i=1}^N w_i NER_{eq}$ when Fund of Funds = TRUE

Source: Morningstar, Inc.

Global Equivalent Prospectus Net Expense Ratio

Similarly, we need to generate a global equivalent for the prospectus net expense ratio. To do so, we take the prospectus net expense ratio when it exists. In the case where it does not exist, we use the annual report net expense ratio equivalent as defined above, but we subtract performance fees.

Global Equivalent Actual Management Fee

Actual management fees are generally reported in the annual report. If they are not reported, we use the maximum management fee when available. If neither are available, we treat it as not available.

Global Equivalent Acquired Expense Ratio

Funds of funds' net expense ratios do not incorporate the fees of the underlying funds. Investors will be charged twice essentially—once for the underlying funds and again for the fund-of-funds wrapper. To adjust for this, we compute the implied, asset-weighted (annual) net expense ratio for funds of funds using the underlying funds' expense ratios.

$$\text{Fund of Funds Acquired Expense Ratio} = \sum_{j=1}^N w_j \text{exp}_j$$

Where:

j = the *j*th fund held by the *i*th Fund of Funds

N = the total number of funds held by the *i*th Fund of Funds

w = the weight of *j*th fund in the *i*th Fund of Fund

exp_i

= the global equivalent net expense ratio of the *j*th fund in the *i*th Fund of Fund

Global Equivalent Operation Expense Ratio Equivalent

Prospectus operating expense ratios are not always provided. When they are not, we can estimate them by taking the difference between the global equivalent net expense ratio and the actual management fee. If neither exist, then we treat it as not available.

Fee Level Ranks by Category

We found other fee data to be important in determining the Morningstar Quantitative Rating. Namely, a fund's Morningstar Category-level rank on four specific types of fees: net expense ratio, max front load, max management fee, and actual management fee. Such rankings were not available in Morningstar data previously. Therefore, the Quantitative Rating computes the ranks. The methodology for these ranks is straightforward: Segment share classes by category, then rank within the category on each fee data point successively, and save these ranks as new data points to be used in the model.

Firm Level Fee Averages

All firm-level averages are done at the branding ID level. A branding ID can contain multiple provider company IDs. For example, one branding ID may have a provider company located in the United States and one located in the United Kingdom, but there can only be one branding ID. When firm-level averages are conducted at the provider company ID level, the averages may be different for each entity. While this may sometimes be advantageous, we find that Morningstar fund analysts more often find firm-level data at the branding ID level. Therefore, all firm-level data used in the Morningstar Quantitative Rating is aggregated to the branding ID level.

Equal-weighting is the default aggregation technique unless explicitly noted otherwise.

Fee Definitions

For the benefit of the reader, we included Morningstar definitions for the various fee-related data points used in either the global equivalent expense variables or the Morningstar Quantitative Rating.

Prospectus Net Expense Ratio

The prospectus net expense ratio is pulled from the fund's prospectus and shows expenses the fund company anticipates will actually be borne by the fund's shareholders in the upcoming fiscal year less any expense waivers, offsets, or reimbursements. In summary, the prospectus net expense ratio is forward-looking and the net annual report expense ratio is backward-looking.

The prospectus net expense ratio is the percentage of fund assets, net of reimbursements, used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. Fund expenses are reflected in the fund's net asset value. Sales charges are not included in the expense ratio.

Prospectus Operating Expense Ratio

The prospectus net expense ratio minus nonoperating expenses.

Acquired Expense Ratio

Acquired expense ratio is an operating expense of the underlying funds in a fund of funds. It is reported in the fund of funds prospectus.

Actual Management Fee

The actual management fee listing most commonly represents the costs that shareholders paid for management and administrative services over the fund's prior fiscal year.

Management Fee

The management fee is the most recently reported actual percentage that was deducted from an investment's average net assets to pay the investment's management.

Front Load

The initial, or front-end, sales charge is a one-time deduction from an investment made into the fund. The amount is generally relative to the amount of the investment, so that larger investments incur smaller rates of charge. The sales charge serves as a commission for the broker who sold the fund. The load fee compensates the broker or financial planner for the service of providing professional investment advice.

A fund may have a sliding-scale maximum initial sales charge of 5.50% that is reduced to 4.50% if \$200,000 is invested and further reduced to 3.50% if \$400,000 is invested. Its minimum may be 0.50% if at least \$5 million is invested. If 0% is listed, then the fund does not have a front-end sales charge.

Accounting Fee

This fee is reported in U.S. dollars and represents pricing service, financial agent, or security servicing fees as represented in the fund's annual report.

Advisor Fee

This fee represents the amount charged by manager(s) as represented in the fund's annual report.

Expense Waiver

The elimination of all or part of a fund's expenses and fees. Funds, particularly fixed-income funds, adopt this practice at various times to make their returns more competitive.

Gross Expense Ratio

The gross expense ratio represents the total gross expenses (net expenses with waivers added back in) divided by the fund's average net assets. If it is not equal to the net expense ratio, the gross expense ratio portrays the fund's expenses had the fund not waived a portion, or all, of its fees. Thus, to some degree, it is an indication of fee contracts. Some fee waivers have an expiration date; other waivers are in place indefinitely.

Net Expense Ratio

The percentage of fund assets used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. Fund expenses are reflected in the fund's NAV. Sales charges are not included in the expense ratio. The expense ratio for funds of funds only includes the wrap or sponsor fees and does not include the underlying fund fees.

Indirect Cost Ratio

Indirect cost ratio measures the total indirect costs of managing a fund. These are the costs that are not deducted directly from an investor's account. Such costs include management and performance fees, investment-related legal, accounting, auditing, and other operational and compliance costs. The aggregation of these indirect costs is divided by the average net asset (this being the size) of the fund and presented as a percentage.

Ongoing Charge

The ongoing charge, which is required to be published in the Key Investor Information Document for EU UCITS funds since July 1, 2012, is also required to be published in the annual report for some countries. In the annual report, the ongoing charge is equivalent to what funds previously had to publish as a total expense ratio except that: 1) The OGC must exclude any performance fee, and 2) it may have other minor technical differences (for example, the inclusion of transaction-related depositary and custody fees).

Management Expense Ratio

Management expenses expressed as a percentage of total assets. Expenses include auditors' remuneration, legal, and professional fees, and managers' fees.

Manager Excess Return

We constructed return series for each portfolio manager listed in our database. Because some managers run multiple products, we adjusted their total returns for their category performance. Similarly, in Europe, managers run products spanning several currencies. To simplify, we converted all returns into a common currency, the U.S. dollar, and excluded any currency-hedged share classes.

The monthly manager return calculation logic is:

- ▶ Convert share class and category average total returns into U.S. dollars.
- ▶ Subtract the currency-converted returns to calculate an ex-category average return in U.S. dollars.
- ▶ Asset-weight share class excess returns to the fund level. Note in the case of missing asset data, we equal-weight the share class data.
- ▶ Equal-weight the fund excess returns of all the funds assigned to a named portfolio manager.

For trailing returns, we compound the monthly returns to calculate the annualized trailing three- and five-year excess returns.

Region Breakdowns

We break down the global universe into six distinct regions: Asia Pacific ex Australia–New Zealand, Australia–New Zealand, Canada, EMEA, Latin America, and the United States. The countries included in each region are below.

Asia Pacific ex Australia—New Zealand

Afghanistan, American Samoa, Armenia, Azerbaijan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Christmas Island, Cocos (Keeling) Islands, Cook Islands, East Timor, Fiji, French Polynesia, Georgia, Guam, Heard Island and McDonald Islands, Hong Kong, India, Indonesia, Japan, Kazakhstan, Kiribati, Kyrgyzstan, Laos, Macao, Malaysia, Maldives, Marshall Islands, Micronesia, Federated States of, Mongolia, Myanmar, Nauru, Nepal, New Caledonia, Niue, Norfolk Island, North Korea, Northern Mariana Islands, Pakistan, Palau, Papua New Guinea, Philippines, Pitcairn, Samoa, Singapore, Solomon Islands, South Korea, Sri Lanka, Taiwan, Tajikistan, Thailand, Timor-Leste, Tokelau, Tonga, Turkmenistan, Tuvalu, Uzbekistan, Vanuatu, Vietnam, Wallis and Futuna Islands.

Australia—New Zealand

Australia, New Zealand

Canada

Canada, St. Pierre and Miquelon

EMEA

Åland Islands, Albania, Algeria, Andorra, Angola, Austria, Bahrain, Belarus, Belgium, Benin, Bosnia and Herzegovina, Botswana, Bouvet Island, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Channel Islands, Comoros, Congo, Congo, the Democratic Republic of the, Côte d'Ivoire, Croatia, Cyprus, Czech Republic, Denmark, Djibouti, Egypt, Equatorial Guinea, Eritrea, Estonia,

Ethiopia, Faroe Islands, Finland, France, France, Metropolitan, Gabon, Gambia, Germany, Ghana, Gibraltar, Greece, Greenland, Guernsey, Guinea, Guinea-Bissau, Holy See (Vatican City State), Hungary, Iceland, Iran, Islamic Republic of, Iraq, Ireland, Ireland, Dublin, Isle of Man, Isle of Man, Israel, Italy, Jersey, Jordan, Kenya, Kuwait, Latvia, Lebanon, Lesotho, Liberia, Libyan Arab Jamahiriya, Liechtenstein, Lithuania, Luxembourg, Macedonia, the Former Yugoslav Republic of, Madagascar, Malawi, Mali, Malta, Mauritania, Mauritius, Mayotte, Moldova, Republic of, Monaco, Montenegro, Morocco, Mozambique, Namibia, Netherlands, Niger, Nigeria, Norway, Occupied Palestinian Territory, Oman, Poland, Portugal, Qatar, Réunion, Romania, Romania, Russia, Rwanda, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, Serbia and Montenegro, Seychelles, Sierra Leone, Slovakia, Slovenia, Somalia, South Africa, Spain, St. Helena, Sudan, Svalbard and Jan Mayen, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tanzania, United Republic of, Togo, Tunisia, Turkey, Uganda, Ukraine, United Arab Emirates, United Kingdom, West Bank of Gaza, Western Sahara, Yemen, Yugoslavia, Zambia, Zimbabwe.

Latin America

Anguilla, Antigua and Barbuda, Argentina, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, British Virgin Islands, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Falkland Islands (Malvinas), French Guiana, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos Islands, Uruguay, U.S. Virgin Islands, Venezuela

United States

United States
U.S. Minor Outlying Islands

Universes

Branding Level

As of November 2020, the branding data points are expanded to include the following universes included in the calculation: open end funds, exchange traded funds, closed end funds, and separately managed accounts.

The associated Branding data points are:

Asset-Weighted Manager Tenure (Longest), Average Actual Management Fee Rank, Average Manager Tenure, Average Maximum Management Fee Rank, Average Morningstar Rating 10-Year, Average Morningstar Rating 5-Year, Average Morningstar Rating 3-Year, Average Morningstar Rating Overall, Average Net Expense Ratio Equivalent Rank, Average Number of Months Since a Manager Change, Average Portfolio Transparency TTM, Average Prospectus Operating Expense Ratio Equivalent Rank, Firm Age, Percentage Assets Team-Managed, Percentage Funds With a Management Change TTM, Retention 5-Year, Risk Adjusted Success Ratio 3-, 5-, and 10-Year, Success Ratio 3-, 5-, and 10-Year. ■■

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About Morningstar® Quantitative Research

Morningstar Quantitative Research is dedicated to developing innovative statistical models and data points, including the Quantitative Equity Ratings and the Global Risk Model.

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