
Morningstar Fee Level—U.S.

Methodology

Morningstar Research
31 October 2016

Introduction

The Morningstar Fee Level for mutual funds was developed to help investors compare an investment vehicle's relative level of fees with those of similar investment vehicles. This methodology applies to all US-based funds and subaccounts in Morningstar's database.

There are three different Morningstar Fee levels

- ▶ Morningstar Fee Level – Broad
- ▶ Morningstar Fee Level – Distribution
- ▶ Morningstar Fee Level – Variable Products

Each of the three Morningstar Fee Levels places funds in a category grouping. Morningstar Fee Level–Broad ranks funds using only the category groupings as comparison groups to determine the rank of each fund. Morningstar Fee Level–Distribution, however, further isolates mutual funds with similar distribution channels and expense structures to create smaller comparison groups within each category grouping. Similarly, Morningstar Fee Level–Variable combines subaccounts into smaller comparison groups within the category grouping based on similar distribution channels and expense structures.

Category Groupings

1. Aggressive Allocation

Allocation--70% to 85% Equity + Allocation--85%+ Equity

2. Alternative

Long-Short Equity + Managed Futures + Market Neutral + Multialternative

3. Bank Loan

4. Bear Market

5. Commodities

Commodities Agriculture + Commodities Broad Basket + Commodities Energy + Commodities Industrial Metals + Commodities Miscellaneous + Commodities Precious Metals

6. Conservative Allocation

Allocation--15% to 30% Equity + Allocation--30% to 50% Equity

7. Convertibles

8. Corporate Bond
9. Currency
Single Currency + Multicurrency
10. Diversified/Asia/Japan
Diversified Pacific/Asia + Japan Stock
11. Emerging Markets Bond
Emerging Markets Bond + Emerging-Markets Local-Currency Bond
12. Emerging Markets Stock
China Region + Diversified Emerging Markets + India Equity + Latin America Stock + Pacific/Asia ex-Japan Stock
13. Europe Stock
14. Foreign Large Cap
Foreign Large Value + Foreign Large Blend + Foreign Large Growth
15. Foreign Small/Mid-Cap
Foreign Small/Mid-Value + Foreign Small/Mid-Blend + Foreign Small/Mid-Growth
16. Government
Long Government + Intermediate Government + Short Government
17. High-Yield Bond
18. High-Yield Municipal
19. Inflation Protected
20. Intermediate-Term Bond
21. Large Cap
Large Value + Large Blend + Large Growth
22. Long-Term Bond
23. Mid-Cap
Mid-Value + Mid-Blend + Mid-Growth
24. Miscellaneous Region
25. Moderate Allocation
26. Emerging Markets
27. Multisector Bond

28. Municipal Intermediate
Municipal California Intermediate + Municipal National Intermediate + Municipal New York Intermediate + Municipal Single State Intermediate
29. Municipal Long
Municipal California Long + Municipal National Long + Municipal New York Long + Municipal Single State Long
30. Municipal Other
Municipal Massachusetts + Municipal Minnesota + Municipal New Jersey + Municipal Ohio + Municipal Pennsylvania
31. Municipal Short
Municipal National Short + Municipal Single State Short
32. Nontraditional Bond
33. Preferred Stock
34. Retirement Income
35. Short-Term Bond
36. Small Cap
Small Value + Small Blend + Small Growth
37. Specialty
Communications + Consumer Cyclical + Consumer Defensive + Equity Energy + Energy Limited Partnership + Equity Precious Metals + Financials + Global Real Estate + Health + Industrials + Infrastructure + Miscellaneous Sector + Natural Resources + Real Estate + Technology + Utilities
38. Tactical Allocation
39. Target Retirement 2000–2010
40. Target Retirement 2011–2015
41. Target Retirement 2016–2020
42. Target Retirement 2020–2025
43. Target Retirement 2026–2030
44. Target Retirement 2031–2035
45. Target Retirement 2036–2040
46. Target Retirement 2041–2045
47. Target Retirement 2046–2050
48. Target Retirement 2051+
49. Trading
Trading-Inverse Commodities + Trading-Inverse Debt + Trading-Inverse Equity + Trading-Leveraged Commodities + Trading-Leveraged Debt + Trading-Leveraged Equity + Trading-Miscellaneous

- 50. Ultrashort Bond
- 51. Volatility
- 52. World Allocation
- 53. World Bond
- 54. World Stock

Morningstar Fee Level – Broad

Methodology

The Fee Level Broad includes all Open-ended registered investment funds. This includes '40 act open-end funds, with or without exchange listings; UITs with legacy ETF exemptions; Grantor Trusts registered under the '33 act; and any other collective investment that Morningstar deems to be an open-ended fund for comparison purposes. Fund share classes are first grouped together into category groupings. The methodology applies to all U.S.-open end funds and exchange traded funds in Morningstar's database.

Within each comparison group, a fund share class' most recent annual report net expense ratio will be ranked against its peers. If a fund share class is part of a fund of funds, the most recent prospectus net expense ratio will be used instead of the annual report net expense ratio. Both the prospectus net expense ratio and annual report net expense ratio should be annualized. If they are not annualized, they should be discarded in favor of an older ratio that is annualized.

Each share class is assigned a quintile score (1 to 5) and a corresponding Fee Grade/Label (High, +Avg [Above Average], Avg [Average], -Avg [Below Average], Low).

Morningstar uses the following formula to determine the percentile rank of an expense ratio in a series. Percentile ranks range from 1 (best) to 100 (worse) with all intermediate values spread evenly over that range.

All observations are ranked in the desired order (ascending). Percentile ranks are assigned as follows:

$$PctRank(v[i]) = Roundup\{100 * \left(\frac{(C[i]-1)}{(n-1)} \right)\}$$

With a special case whereby any PctRank=0 is transformed to PctRank=1
Roundup is a function to round the result up to the next integer.

where:

- PctRank(v[i]) = Percentile rank for fund i
- v[i] = The value being ranked for fund i
- C[i] = The absolute rank of fund i
- n = The total number of observations

Morningstar does not require a minimum number of items in order to percentile rank a set of data. For example, if there are only three fund share classes in a distribution class for a comparison group, we will percentile rank those three (1, 50, and 100).

Exhibit 1 Percentile Ranks Are Then Mapped Into Quintiles

Range	Quintile	Word Label
0 < Percentile Rank <= 20	1	Low
20 < Percentile Rank <= 40	2	Below Average or +Avg
40 < Percentile Rank <= 60	3	Average or Avg
60 < Percentile Rank <= 80	4	Above Average or -Avg
80 < Percentile Rank <= 100	5	High

Source: Morningstar, Inc.

Morningstar Fee Level – Distribution

Methodology

Fund share classes are first grouped together into category groupings. The methodology applies to U.S. open-end funds in Morningstar's database, but excludes ETFs. ETFs are presently excluded from distribution classes, this is because ETFs are members of multiple groups: No Load, Institutional; and all three Retirement groups, if a plan has a brokerage window.

Distribution Class Criteria

Comparison groups are further determined by the criteria listed below. This allows for an "apples to apples" comparison of fund share classes with similar distribution channels and expense structures.

Data Points Required (Most Recent):

- Maximum front load
- Maximum deferred load
- 12b-1 fee
- Minimum initial purchase
- Share class type

Front Load: Front load of greater than 1.00%; 12b-1 fee less than or equal to 0.50%; minimum initial purchase less than \$100,000; share class type does not equal Retirement.

Deferred Load: Max deferred load greater than 1.00%; front load equal to 0%; minimum initial purchase less than \$100,000; share class type does not equal Retirement.

Level Load: Deferred load less than or equal to 1.00%; front load equal to 0%; 12b-1 fee greater than 0.25%; minimum initial purchase less than \$100,000; share class type does not equal Retirement.

No Load: Minimum initial purchase less than \$100,000; share type does not equal Retirement or Institutional; 12b-1 fee less than or equal to 0.25%; front load equal to 0%; deferred load equal to 0%.

Institutional: Share class type equals Institutional or minimum initial purchase is greater or equal to \$100,000; share class type does not equal Retirement.

Retirement, Small: Share class type equals Retirement; 12b-1 fee is greater than 0.50%.

Retirement, Medium: Share class type equals Retirement; 12b-1 fee is greater than 0.00% and less than or equal to 0.50%.

Retirement, Large: Share class type equals Retirement and 12b-1 fee is 0.00%.

Example distribution class comparison groups include:

1. Bank Loan—Front Load
2. Bank Loan—Deferred Load
3. Bank Loan—Level Load
4. Bank Loan—No Load
5. Bank Loan—Institutional
6. Bank Loan—Retirement, Small
7. Bank Loan—Retirement, Medium
8. Bank Loan—Retirement, Large
9. Bear Market—Front Load
10. Bear Market—Deferred Load
11. Bear Market—Level Load
12. Bear Market—No Load
13. Bear Market—Institutional
14. Bear Market—Retirement, Small
15. Bear Market—Retirement, Medium
16. Bear Market—Retirement, Large

Number of category groups * number of distributions classes = number of comparison groups

Ranking

Within each comparison group, a fund share class' most recent annual report net expense ratio will be ranked against its peers, using five quintiles. If a fund share class is part of a fund of funds, the most recent prospectus net expense ratio will be used instead of the annual report net expense ratio. Both the prospectus net expense ratio and annual report net expense ratio should be annualized. If they are not annualized, they should be discarded in favor of an older ratio that is annualized. Each share class is assigned a quintile score (1 to 5) and corresponding Fee Grade/Label (High, +Avg [Above Average], Avg [Average], -Avg [Below Average], Low).

Morningstar uses the following formula to determine the percentile rank of an expense ratio in a series. Percentile ranks range from 1 (best) to 100 (worse) with all intermediate values spread evenly over that range.

All observations are ranked in the desired order (ascending). Percentile ranks are assigned as follows:

$$\begin{aligned} \text{PctRank} &= i && \text{for } i = 1 \\ &&& \text{FLOOR}[99*(i-1)/(n-1)+1] && \text{for } i > 1 \end{aligned}$$

Where:

- n = Total number of observations
- i = Absolute rank of each observation
- Floor = A function that rounds down to the next integer (e.g., 89.83 rounds down to 89)

Morningstar does not require a minimum number of items in order to percentile rank a set of data. For example, if there are only three fund share classes in a distribution class for a comparison group, we will percentile rank those three (1, 50, and 100).

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80 < Percentile Rank <= 100	5	High

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Morningstar Fee Level – Variable Products

Methodology

Subaccounts are first grouped together into category groupings. The methodology applies to all U.S. variable annuity subaccounts and U.S. group variable annuity subaccounts in Morningstar's databases. The methodology does not apply to variable life and variable universal life subaccounts, primarily because policy-level mortality and expense charges are not uniformly assessed as asset-based fees.

Distribution Class Criteria

Comparison groups are further determined by the criteria listed below. This allows for an "apples to apples" comparison of subaccounts with similar distribution channels and expense structures.

Policy Data Points Required (Most Recent):

Mortality and Expense Risk Charge (M&E)
Administrative Charge
Distribution Charge
Share class type

Class A: Front-load structure with no contingent deferred sales charges.

Class B: Contingent deferred sales charge schedule greater than three years, no front load.

Class C: Contingent deferred sales charge schedule of one year or less, no front load.

Class I (No Load): No front load or contingent deferred sales charge and M&E less than 1%.

Class L: Contingent deferred sales charge, three- to four-year level or declining schedule.

Class O: Front load spread out over x years and contingent deferred sales charge, both determined by a breakpoint-based reducing schedule.

Class X: Contingent deferred sales charge, no front load, and contractual (i.e. non-optional) up-front premium bonus.

Group VA: Subaccounts in policies solely available to an employer as a funding vehicle for a qualified or non-qualified deferred compensation plan, or to individuals who purchase the policies through a qualified group plan, such as a 403(b).

Example distribution class comparison groups include:

1. Bank Loan – Class A
2. Bank Loan – Class B
3. Bank Loan – Class C
4. Bank Loan – Class I
5. Bank Loan – Class L
6. Bank Loan – Class O
7. Bank Loan – Class X
8. Bank Loan – Group VA
9. Bear Market – Class A
10. Bear Market – Class B
11. Bear Market – Class C
12. Bear Market – Class I
13. Bear Market – Class L
14. Bear Market – Class O
15. Bear Market – Class X
16. Bear Market – Group VA

Number of category groups * number of distributions classes = number of comparison groups

Ranking

Within each comparison group, a fund share class' most recent annual report net expense ratio will be ranked against its peers. If a fund share class is part of a fund of funds, the most recent prospectus net expense ratio will be used instead of the annual report net expense ratio. Both the prospectus net expense ratio and annual report net expense ratio should be annualized. If they are not annualized, they should be discarded in favor of an older ratio that is annualized.

Each share class is assigned a quintile score (1 to 5) and corresponding Fee Grade/Label (High, +Avg [Above Average], Avg [Average], -Avg [Below Average], Low).

Morningstar uses the following formula to determine the percentile rank of an expense ratio in a series. Percentile ranks range from 1 (best) to 100 (worse) with all intermediate values spread evenly over that range.

All observations are ranked in the desired order (ascending). Percentile ranks are assigned as follows:

$$\begin{aligned} \text{PctRank} &= i && \text{for } i = 1 \\ &&& \text{FLOOR}[99*(i-1)/(n-1)+1] && \text{for } i > 1 \end{aligned}$$

Where:

- n = Total number of observations
- i = Absolute rank of each observation
- Floor = A function that rounds down to the next integer (e.g., 89.83 rounds down to 89)

Morningstar does not require a minimum number of items in order to percentile rank a set of data. For example, if there are only three fund share classes in a distribution class for a comparison group, we will percentile rank those three (1, 50, and 100).

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