
Morningstar Extended Performance Methodology

Morningstar Fund Research

30 April 2018

Contents

1	Introduction
4	Eligible for Extended Performance
7	Not Eligible for Extended Performance
10	Morningstar Extended Performance Methodology
15	Extended Performance Rating
18	Conclusion

Introduction

The structure of an investment portfolio can change over time as the asset manager makes business decisions about distribution channels and the legal structure of the portfolio. For example, a mutual fund may add a new share class, or a closed-end fund may convert to an open-end structure. In some cases, the business decision does not fundamentally change the portfolio, its management, its shareholders, or its strategies. In these cases, the performance of the original portfolio is relevant to the new entity.

Morningstar created extended performance statistics to “fill in the gap” between the inception date of a new share class or distribution channel and the inception date of the original portfolio. Extended performance lengthens the performance data that is available for the younger investment. This helps investors see how the portfolio as a whole has performed over time. For example, if a mutual fund started 15 years ago with an Investor share class and just added an Institutional share class one year ago, Morningstar will lengthen the performance history of the Institutional share class to 15 years. Often, some of the shareholders in the new share class were actually shareholders in the oldest share class.

In some cases, where the originally launched share classes have been liquidated, this may mean extending the performance by two or more share classes to “fill the gap” between inception and the launch of the new share class.

Morningstar will display extended performance under two circumstances: multi-share situations and predecessor/successor situations.

- ▶ In a multi-share situation, there are multiple share classes or distribution channels for a single investment portfolio. All classes and channels are based on the same pool of money, but they are priced separately to reflect different fees and expenses. For example, a fund might have share classes A, B, C, and I, and it might also be available through an insurance product, such as a variable annuity.¹
- ▶ In a predecessor/successor situation, the fund changes its legal structure or domicile for business reasons. In this case, the original portfolio ceases to exist and substantially all shareholders are transferred into the new structure. An example of this is a closed-end to open-end fund conversion. Another example is a fund that changes its domicile from one country to another for tax reasons but

1. Extended performance is commonly used in the variable annuity industry, because insurance companies usually select underlying funds that have a long history of demonstrated performance.

otherwise keeps the fund structure and shareholders the same and is subject to the same level of regulation.

What This Means for Investors

Extended performance returns provide investors with more information to help them evaluate their investment choices. The inception date of a new distribution channel merely reflects a business decision—it is when the fund company decided to expand its offerings. Extended performance, on the other hand, reveals the full and complete performance history of the portfolio. Only a few portfolios can sustain strong performance year after year. Investors can use extended performance to evaluate how the investment manager has performed over time and through various market cycles.

Fee Adjustments

Morningstar's treatment of returns is different for multi-share and predecessor/successor situations.

- ▶ In a multi-share situation, Morningstar will adjust the performance history of the original portfolio to reflect differences in fees between the original share class and the younger share class. This adjustment will only occur where the new share class has higher fees than the oldest share class, so the extended performance for the younger share class will be lower than, or equal to, the returns of the oldest share class. Where the oldest share class has higher fees than the younger share class no adjustment is made.
- ▶ In a predecessor/successor situation, Morningstar will use the unadjusted performance of the original portfolio to extend the performance of the new entity. In these cases, the shareholders of the original portfolio structure were transferred into the new structure when the original structure was discontinued. Therefore, the unadjusted performance of the original portfolio best describes what those investors experienced.

Other Extended Performance Data

On a case by case basis, Morningstar may also calculate extensions for other performance-based measures, such as load-adjusted returns, risk measures, and the extended performance Morningstar Rating. Extended performance can be calculated for any type of portfolio (e.g. stock, bond, balanced, international, etc.).

Graphic Display

To differentiate between extended performance that has been adjusted and actual performance, Morningstar has established design standards for presenting this information.

For multi-share situations, Morningstar displays extended performance returns with italicized numbers and extended performance ratings with hollow stars.

Exhibit 1 Morningstar Data Formatting and System Displays

	Overall	3-Year	5-Year	10-Year
Valuation Mutliples	★★★★★	★★★★★	★★★★	★★★★★
Valuation Mutliples	★★★	★★★★	★★★	☆☆☆☆
Total Return %	10.68	9.05	12.21	10.26
Load Adjusted Return %	8.56	7.15	10.52	8.79
Morningstar Rating™	★★★	☆☆☆☆	★★★	★★★★

Source: Morningstar Direct. Data as of 00/00/2016

There is no special visual treatment for predecessor/successor situations, because the returns are not adjusted. Shareholders in the original portfolio were transferred over to the new portfolio structure and so the returns are continuous. Morningstar will analyze if these structural changes are significant or not. If the change is deemed a “significant restructure” Morningstar will suspend rankings and ratings until the new structure has sufficient independent history. The performance will remain available for analysis as investors.

This Document

The following document explains the most circumstances under which Morningstar considers funds eligible for extended performance. The document also details how the calculation is performed. This document represents Morningstar’s position on the subject; it is not a summary of local regulations. This document applies to the US market only.

Eligible for Extended Performance

The following situations are eligible for extended performance.

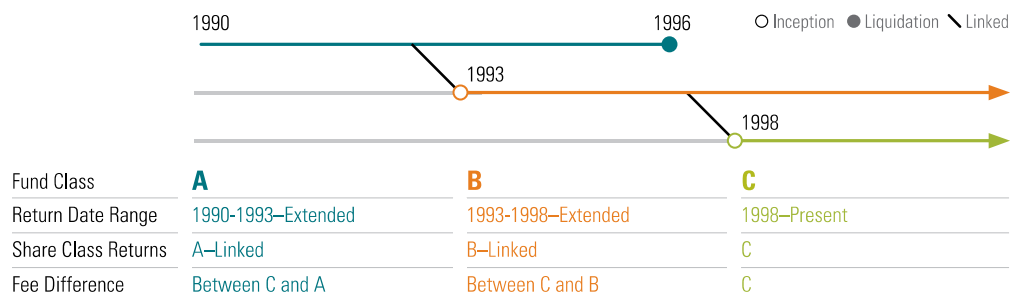
Multi-Share Situations

Morningstar will calculate extended performance for the following multi-share situations. The rationale is the same for all these cases — when share classes or sub-accounts are based on the same underlying portfolio (single pool of money), any differences in performance can be attributed to differences in fees, and performance can be adjusted accordingly. These extended performance returns are highlighted in italics, and any ratings based on this data are displayed as hollow stars.

- A. Open-end funds/ETFs/CITs: Morningstar will calculate extended performance for a younger share class based on the performance of the oldest share class in the same fund.

Where the originally inceptioned share classes for a fund are liquidated Morningstar will chain link the performance of multiple share classes to extend the performance back to the original inception date. The only limitation is that there must be an unbroken ‘chain’ of share classes that were active from the original share class to the inception date of the share class receiving the extended performance.

Exhibit 2 Linking Performance of Multiple Share Classes Back To The Original Inception Date



Source: Morningstar Direct. Data as of 00/00/2016

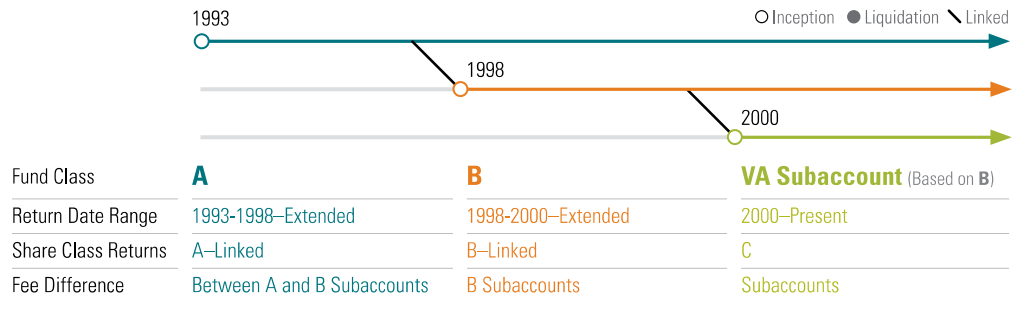
To create the 'chain' of share to use for the extended performance calculation this the oldest active share class is chosen, in the case above fund class B. Fund class B's performance from its inception date to the inception date of fund C is then used (with the any appropriate fee adjustment explained later in this paper). Next, if older share classes of the fund are available, the process repeats and the oldest share class that was active on fund B's inception date is chosen (the share class need not be active currently). In the case above this who be fund class A. Fund class A's performance from its inception date to the inception date of the fund class B is then also linked to the performance of the fund class C (with any appropriate fee adjustments). This process is repeated until there are no longer any share classes that are active on the chain's first inception date that have an earlier inception date.

For details of how Morningstar determine the oldest share class in the event of multiple share class having the same inception date please see the Oldest Share Class Methodology Paper.

- B. Open-end funds/ETFs: Morningstar will also calculate extended performance for all "feeder funds" based on the performance of the oldest feeder fund in a "master-feeder" fund structure.
- C. Open-end funds/ETFs: Where a fund has both open end and ETF share classes the extended performance calculation may use either the NAV performance history of the ETF class or open-end class for the extension.
- D. Variable annuities: If a VA underlying fund starts being offered as an open-end fund, Morningstar will extend the performance for the open-end fund based on the performance of the original VA underlying fund.²
- E. Variable annuities: Morningstar will calculate extended performance for sub- accounts based on the performance of the underlying funds.
- F. Variable annuities: If the sub-account invests in a share class that is not the oldest share class of the underlying fund, Morningstar will also calculate extended performance for the sub-account based on the performance of the oldest share class of the underlying fund. For example:

² Variable annuity assets are held separately from the corresponding open-end fund for legal reasons. However, the variable annuity portfolio closely resembles the composition and securities of the corresponding open-end fund.

Exhibit 3 Linking Performance To The Original Inception Date Using Underlying Fund



Source: Morningstar Direct. Data as of 00/00/2016

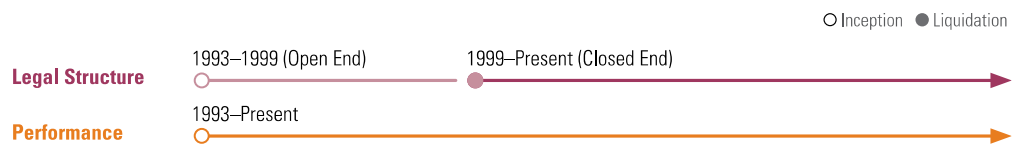
Predecessor/Successor Situations

Morningstar will display extended performance for the following predecessor/successor situations. For these situations, shareholders were transferred from the old structure to the new structure at the time of the change. Therefore, the performance history of the original structure is relevant to the new structure, with no adjustments for fees. Because the returns are not adjusted for fees, Morningstar does not display these returns with any special graphic treatment. The returns of the original structure are continuous with the returns of the new structure.

- G. Change in domicile: If an investment portfolio changes its domicile (perhaps for tax reasons) and otherwise keeps its management and shareholders intact, the performance history from the original domicile will be carried through to the new domicile. The original domicile’s portfolio must cease to exist after the move, there must not be any gaps in performance, and the regulatory environment must be similar.

- H. Closed-end to open-end conversions: When a closed-end fund converts into an open-end fund structure, Morningstar will append the closed-end net asset values (not market prices) onto the record for the new open-end fund, so total returns will be available back to the start date of the closed-end fund. The closed-end structure must cease to exist after the conversion.

Exhibit 4 Closed-end to Open-End Conversions



Source: Morningstar Direct. Data as of 00/00/2016

Not Eligible for Extended Performance

There are cases when Morningstar will not extend performance for a fund. In most of these situations, Morningstar cannot ensure that the historical performance and strategies of the original portfolio are representative of the newer portfolio.

One factor that makes funds ineligible for extended performance is when the new portfolio is managed as a separate pool of money from the original portfolio. Morningstar does not extend performance in these cases, because it is likely that the performance of the two funds will diverge.

- ▶ First, two separate portfolio managers may make independent decisions about which securities to purchase and how much cash to keep on hand.
- ▶ Second, different-sized portfolios face different investing opportunities; when one fund is significantly larger than another, the larger fund is at a pricing disadvantage when buying and selling significant positions in a stock.
- ▶ Lastly, if the two portfolios are managed by different firms, the resources available to the managers and the fees charged will vary.
- ▶ Unregistered to Registered conversions, including Hedge Fund to Open-End fund conversions. The limitations on registered funds portfolio construction associated with leverage, liquidity and has empirically demonstrated that the related performance is an unreliable proxy for the successor registered fund. Morningstar has deemed this performance to be ill-suited for most investors³.

A second factor that makes funds ineligible for extended performance is when a fund moves from a lightly regulated situation to a more highly regulated situation. For example, a manager of a hedge fund or offshore portfolio may have great flexibility to leverage the fund, use derivatives, and invest in illiquid securities. It would not be appropriate to use that performance history if the manager converted the portfolio into an open-end fund, which is a more highly regulated investment that must limit its investments in those types of securities.

Morningstar will not extend performance under the following circumstances:

³ From 2010 until 2017, Morningstar permitted related performance of Hedge Fund to Open-end Conversions to be displayed without calculating ratings. After observing the empirical data, our opinion diverged from the SEC deeming it a bad indicator of strategy performance in the new regulated structure.

Spin-off/Clone Funds

If an asset manager creates a new and separate portfolio based on the investment style of an existing portfolio, Morningstar will not extend the performance of the new fund based on the performance of the old fund even if the portfolio objective and strategy are substantially similar and **even if** the new portfolio is being run by the same manager.

Reason: Once the pool of money becomes separate from the original portfolio, it may be managed differently. Therefore, the performance of the old fund is not necessarily representative of the new portfolio.

Manager Move

If a portfolio manager becomes employed by a new asset manager, Morningstar will not use the manager's prior performance at the old firm to extend the performance of a new fund at the new employer.

Reason: Morningstar believes that in addition to the portfolio manager, the asset management company's policies, research staff, trading costs, and fees also influence the returns. Therefore, the manager's prior performance at an old firm is not representative of the situation at the new firm. The CFA Institute concluded that a manager's prior work experience may be presented as supplemental information (e.g. in an advertisement), but normally, it may not be linked to the ongoing performance of the new portfolio.

Fund of Funds

Morningstar will not extend performance for a "fund of funds" based on the extended performance of the underlying funds.⁴ Fund of funds invest in a combination of other funds and usually apply a wrap fee.

Reason: At first glance, it may seem that a fund of funds should be eligible for extended performance. In theory, the performance of the fund of funds should be based on the weighted average of the returns of the underlying funds. However, Morningstar will not extend performance for fund of funds for two reasons.

First, Morningstar may not have extended performance data on all the component funds. Second, Morningstar does not know what the fund's historical allocation has been. For example, a fund of funds may be currently investing 30% in a growth fund, 40% in an international fund, and 30% in a bond fund. These weights and even the component funds may have changed, so Morningstar does not have a reliable way to derive the extended performance for a fund of funds.

4. In the U.S., Morningstar will extend performance for 529 College Savings Plans, which are structured as fund of funds.

Composite Performance

Morningstar will not extend portfolio performance based on the performance of a related composite. Portfolio composites represent an asset manager's average performance for a given investment style. These are usually created when the management company has slightly different portfolios for each investor. For example, separate account investors have unique tax needs and security preferences and each investor holds the securities directly, rather than owning shares of a fund. If a separate account manager decides to start an open-end fund or CIT, Morningstar will not use the separate account composite returns to extend the performance of the open-end fund or CIT.

Reason: The CFA Institute outlines rules for composite construction in their Global Investment Performance Standards. However, there is still some manager discretion involved in determining exactly which portfolios get included in the composite. Also, Morningstar products are not equipped to display the disclaimers that the CFA Institute requires for composite performance.

CIT Gross of Fee Classes

Morningstar will not extend performance for a CIT "gross of fee" share class, also sometimes referred to as "gross of management fee" share classes. Per Morningstar's Oldest Share Class Methodology, CIT gross of fee share classes also cannot function as the parent (oldest) share class from which newer (child) share class extended performance is derived. Morningstar defines a CIT gross of fee share class as one in which all or a portion of the expense ratio fee is omitted because it is always negotiated on a per client basis and charge separately.

Reason: The final fee and performance is considered client specific to the qualified retirement plan and therefore cannot be used in the extended performance methodology as the full fee will not be reported.

CIT Missing Net Expense Ratio

Morningstar will not extend performance for a CIT share class that does not report a net expense ratio, or reports a "0" as the net expense ratio. CIT classes missing a net expense ratio also cannot function as the parent (oldest) share class from which newer (child) share class extended performance is derived.

Reason: The required fee data to calculate extended performance is not available.

Other

There are other situations when Morningstar will not extend performance. This is determined on a case-by-case basis for situations that do not fall into the above categories.

Morningstar Extended Performance Methodology

For predecessor/successor situations, the performance of the original portfolio is not adjusted but is instead appended to the records of the new portfolio. The methodology below is used only for multi-share situations where the historical performance of the original portfolio is adjusted for fees.

For multi-share situations, Morningstar will adjust the historical total returns of the oldest share class ("parent") to reflect the fee structure of the younger share class/channel ("child"). The parent fund monthly returns (prior to the child's inception) are adjusted for fees, and then this data is attached to the child record. Then, the string of adjusted plus actual monthly returns for the child are compounded into historical trailing returns. The fee adjustment is necessary, because expenses reduce the net returns to shareholders.

There are four steps in the calculation of fee-adjusted extended performance returns.

1. Calculate an annual adjustment factor that expresses the fee differential between the parent fund's annual expenses and the child's annual expenses.
2. Calculate a monthly adjustment factor based on the annual factor.
3. Use the monthly factor to adjust the parent's historical monthly returns prior to the inception of the child fund and transfer the data to the child.
4. Compound the child's extended performance pre-inception monthly returns with its actual post-inception returns to create trailing total returns.

For example, class A started in January and class B in October. Class A returns from January through September are adjusted and shared with class B.

Exhibit 5 Title

○ Inception

Class A	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Class A returns are adjusted and shared with class B																
Class B	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr

Source: Morningstar Direct. Data as of 00/00/2016

With this data, Morningstar can also calculate other variations on extended performance (e.g. load-adjusted returns, Modern Portfolio Theory statistics and extended performance ratings).

Morningstar recalculates historical monthly returns for all funds at the end of each month. The extended performance calculations use the fees that are most current in the databases.

1. Annual Fee Adjustment Factor

The annual fee adjustment factor measures the excess yearly fees paid by the child. Morningstar adjusts for only those fees that tend to differ between share classes.

For funds based in the United States, 15 different component fees make up the expense ratio, but Morningstar only adjusts for the management (advisor) fee and distribution (12b-1) fee. For the other 13 components, the fees tend to be the same for all share classes of the same fund.

For collective investment trusts (CITS), since different fee components are not collected, Morningstar only adjusts for the net expense ratio.

$$f_A = \text{Max}\{0, (F_c - F_p)\} \quad (1)$$

where

f_A = the annual fee adjustment factor

F_c = select fees for the child, expressed as a decimal (gross of any temporary fee waivers)

- ▶ For a U.S. open-end fund, F_c =sum of the child's management fee and distribution fee (e.g. 12b-1)
- ▶ For a U.S. variable annuity, F_c =sum of the parent's management fee, distribution fee and the additional insurance expense of the sub-account (insurance expense includes M&E, administration, and distribution)⁵
- ▶ For a U.S. CIT, F_c =the child's net expense ratio fee

F_p = select fees for the parent fund, expressed as a decimal

- ▶ For a U.S. open-end fund, F_p =sum of the parent's management fee and distribution fee (e.g. 12b-1)
- ▶ For a U.S. CIT, F_p = the parent's net expense ratio

Max = a function that chooses the greater of two numbers

For example, Class B (child) has a management fee of 1.74% and a distribution fee of 1.00%. Class A (parent) has a management fee of 1.41% and a distribution fee of 0.25%. The fee adjustment factor is calculated as follows:

⁵ In the case of a variable annuity sub-account, the investor pays both the fees of the underlying fund and the fees of the sub-account.

$$f_A = \text{Max}\{0, (0.0174 + 0.0100) - (0.0141 + 0.0025)\} = 0.0108$$

The “max” function is in place to ensure that each adjusted monthly return for the child is not higher than the respective parent fund return. Morningstar takes this conservative approach in order not to overstate the possible returns the child fund could have earned.⁶

If the child has higher expenses than the parent fund, the adjustment factor will be greater than zero and the child monthly returns will be less than the parent fund returns.

Conversely, if the child has lower expenses than the parent, a factor of zero is used and the child return is equal to the parent return (no adjustments).

This adjustment is only applicable to each pre-inception monthly return for the child. The child trailing returns (e.g. three-year annualized) can be composed of both actual monthly returns and extended performance monthly returns. Therefore, it is possible that the child trailing return may exceed the parent trailing return.

Morningstar will make an exception to the annual fee adjustment factor when the oldest share class is the share class where a lower 12b-1 is reported because additional 12b-1 fees are included in Other Expenses and the younger share class has a 12b-1 fee that includes all the 12b-1 expenses. In this instance the younger share class would be further penalized due to the way the extended performance calculation compares these 12b-1 fees. In this instance Morningstar compares the overall expense ratios of the two share classes. When the younger share class’ expense ratio is less than the older share classes expense ratio we set the monthly adjustment factor equal to zero. This exception does not apply to CITs.

2. Monthly Fee Adjustment Factor

The monthly fee adjustment factor is derived from the annual fee adjustment factor with the geometric method below:

$$f_M = (1 + f_A)^{\frac{1}{12}} - 1$$

where

f_M = the monthly fee adjustment factor

f_A = the annual fee adjustment factor

For example, if the annual fee factor is 0.0108, the monthly fee factor is calculated as follows:

$$f_M = (1 + f_A)^{\frac{1}{12}} - 1 = (1 + 0.0108)^{\frac{1}{12}} - 1 = 0.0008955$$

⁶ This follows the recommendation of the U.S. Securities and Exchange Commission, as outlined in the 1997 no-action letter to the Quest For Value fund.

3. Adjusted Pre-Inception Monthly Returns

Once the monthly fee factor has been determined, pre-inception monthly returns for the child can be calculated. The fee factor is applied to each parent fund's monthly return prior to the child's inception.

$$R'_{Ct} = 1 - \frac{1 + R_{Pt}}{1 + f_M} - 1$$

where

R'_{Ct} = the extended performance pre-inception monthly return for the child for month t
(the prime symbol is used to differentiate between actual returns and adjusted returns)

R_{Pt} = the parent fund's historical monthly return for month t

f_M = the monthly fee adjustment factor

For example, if the parent fund monthly return is 1.09%, the annual fee factor is 0.0108, and the monthly fee factor is 0.0008955, the extended performance return for the child is calculated as follows:

$$R'_{Ct} = 1 - \frac{1 + R_{Pt}}{1 + f_M} - 1 = \frac{1 + 0.0109}{1 + 0.0008955} - 1 = 0.00999 = 1.00\%$$

The parent fund return is 1.09% and the child extended performance return is 1.00%. In this case, the child has higher fees than the parent fund, so the child returns are lower than the original parent fund returns.

If the child fund started in the middle of a month (e.g. March 15), Morningstar will use the adjusted parent fund return for the full month, rather than a partial month of adjusted parent returns (March 1-15) plus a partial month of actual child returns (March 15-31).

If the parent fund started in the middle of the month, the adjusted return for the child for this partial month is as follows. (This adjusted partial month would be used to calculate the since-inception extended performance return for the child fund, back to the parent fund's inception date).

$$R'_{Ci} = \frac{1 + R_{Pi}}{1 + \frac{f_M d_e}{d_m}} - 1$$

where

R'_{Ci} = the extended performance partial-month return for the child

R_{Pi} = the parent fund partial-month return for the inception month

d_e = the number of days between the parent fund inception date and the end of the inception month

d_m = the number of days during the inception month

f_m = the monthly fee adjustment factor

The result is the extended performance partial-month return for the child for the parent fund's inception month.

4. Child Trailing Returns

The adjusted historical monthly returns can be compounded with the child's actual returns to create trailing multi-period returns for the child.

For example, if the child share class started 8 months ago and the parent share class started 5 years ago, Morningstar can calculate total returns for the child for up to five years. Morningstar will adjust the parent's monthly returns and will compound those adjusted monthly returns with the child's actual monthly returns.

Exhibit 6 Child Trailing Returns

	3-Month	1-Year	3-Year	5-Year
Parent	0	4	28	52
+ Child	3	8	8	8
Total Months	3	12	36	60

Source: Morningstar Direct. Data as of 00/00/2016

Extended Performance Rating

Extended performance monthly returns are calculated for multi-share situations and monthly returns are carried over for predecessor/successor situations when the conversion is a registered 40-act to a registered 40-act investment (i.e., Closed-End Fund to Open-End Fund). Once the monthly returns are in place, other performance-based measures can be calculated from the derived data. For example, a trailing total return can be adjusted for the effects of loads to calculate a load-adjusted return.

In addition to returns, Morningstar also calculates the extended performance Morningstar Rating for new share classes/channels. Morningstar uses actual plus extended performance monthly returns to calculate the load-adjusted, extended performance Morningstar Risk-Adjusted Return for the three-, five-, and 10-year time periods. (For more information, please see the document entitled "The Morningstar Rating Methodology.") The extended performance risk-adjusted returns are used to determine the extended performance rating.

Every month, Morningstar ranks all funds (or sub-accounts) in each Morningstar Category by their three-, five-, and ten-year risk-adjusted returns. The one- through five-star ratings for each time period are based on a bell curve distribution of the funds in each category. The bell curve is based on funds with actual returns only; extended performance results are not included when these breakpoints are determined. Then, Morningstar uses the rating breakpoints for the actual returns in order to assign the extended performance ratings.

For example, if a fund's three-year extended performance risk-adjusted return was 7.00%, its three-year extended performance rating would be 4-stars, according to the table below for this specific Morningstar Category for this sample month.

Exhibit 7 Risk-adjusted Performance Breakpoints

	Rating Type		
	3-Year	5-Year	10-Year
Count by Funds	32	29	16
Breakpoints			
Max	11.5	5.89	4.06
5 to 4	9.07	4.55	3.58
4 to 3	5.52	2.93	2.84
3 to 2	4.05	1.97	2.01
2 to 1	1.99	1.39	1.78
Min	0.99	0.48	0.32

Source: Morningstar Direct. Data as of 00/00/2016

The Overall Morningstar Rating is a weighted average of the three-, five-, and 10-year ratings. If the fund/sub-account has not experienced any category changes, the weights for the overall rating are as follows:

Exhibit 8 Overall Morningstar Rating (%)

	3-Year	5-Year	10-Year
36–59 months	100	—	—
60–119 months	40	60	—
> 120 months	20	30	20

Source: Morningstar Direct. Data as of 00/00/2016

Overall Rating for Multi-Share Open-End Funds and Collective Investment Trusts

For multi-share open-end funds and collective investment trusts, the Overall Morningstar Rating will be either based on actual performance only or extended performance only. Once the share class turns three years old, the overall rating will be based on actual ratings only.

Exhibit 9 Overall Rating for Multi-Share Open-End Funds

Share Class	Rating Type			Overall (Weighted Average)
	3-Year	5-Year	10-Year	
A	Actual	Actual	Actual	3/5/10
B	Actual	Actual	Extended	3/5
C	Actual	Extended	Extended	Based on 3-Year Rating Only
D	Extended	Extended	Extended	3/5/10

Source: Morningstar Direct. Data as of 00/00/2016

Overall Rating for Multi-Share VAs

For multi-share variable annuities, the Overall Morningstar Rating is a weighted average of any ratings that are available.

Exhibit 10 Overall Rating for Multi-Share VAs

Share Class	Rating Type			Overall (Weighted Average)
	3-Year	5-Year	10-Year	
A	Actual	Actual	Actual	3/5/10
B	Actual	Actual	Extended	3/5/10
C	Actual	Extended	Extended	3/5/10
D	Extended	Extended	Extended	3/5/10

Source: Morningstar Direct. Data as of 00/00/2016

Conclusion

The investment industry will continue to grow and to add classes of shares or sub-accounts to existing investment portfolios. As this collection of offerings becomes larger and more complex, it is even more important that investors have as much information as possible to make educated decisions about their investments. Extended performance lengthens the performance of a younger share class or sub-account based on the established history of the original portfolio. Investors can use the extended performance returns and ratings to determine how a younger product could have performed had it been in existence as long as the original share class. In the absence of extended performance, investors in younger funds and sub-accounts are left with a void of data.

Extended performance returns and ratings are not predictors of future performance. Investors should study extended performance returns and ratings together with other critical product information and attributes before investing in a mutual fund, collective investment trust, or variable annuity. ■■

Document Version History

Version 1.0	March 31, 2011	Original publication
Version 1.1	October 31, 2016	Revision including ability to extend with liquidated share classes.
Version 1.2	March 31, 2018	Removal of Hedge Fund to OE conversions Inclusion of Multi-share CIT extensions