Table of Contents

Introduction

Collection and Calculation Methodology

Section:
1. No events ever happen
2. Registered with Local Regulation but not open to investors
3. Incubation fund
4. Seed Money
5. Fixed Offer Period/IPO Period
6. First Public Investor Date
7. Can’t get complete history data
8. Re-domicile (only applies to non US funds)
9. Legal structure change
10. Significant investment strategy change
11. Dormant Fund
12. Suspended Fund
13. Extended Performance & Track Record Extension for
   Extended Performance for Track Record Extension
14. Performance Mergers
15. Basic Mergers
16. Fund Liquidation

Conclusion

Proposal
Add new Business rules
DM New Interface
Calculations

Return calculations Ranking and
Rating calculations

Example

©2011 Morningstar, Inc. All rights reserved. The information in this document is the property of Morningstar, Inc. Reproduction or transcription by any means, in whole or in part, without the prior written consent of Morningstar, Inc. is prohibited.
Introduction

There are multiple ways to define a fund’s inception date for purposes of return and ratings calculations. Morningstar may have a different definition of inception date from mutual fund companies due to different investment styles, legal structures and local regulatory guidelines.

The purpose of this methodology documentation is to outline clearly our calculation and collection method for the events that can effect the definition of the life of the fund.
In each scenario described below, the definition is included to define a specific scenario and how we handle each scenario in our database.

1. **No events ever happen**
2. **Registered with Local Regulation but not open to investors**

   - Return calculation starts, Ranking and Star Rating clock starts
   - Inception/AFS
   - Normal situation
     - Rating and return won't be affected

In this case, we set the fund as “pending” until it opens to investors.
3. Incubator fund

3a. We prefer not to include incubator performance as part of a fund’s track record because the fund is not open to investors during the incubator period.

However, if local regulators accept incubator performance attached to the real performance and the fund company can show the entire history in the fund’s prospectus, we will accept it, too. Picture 3b highlights how we handle this scenario.

4. Seed Money

We will use “first public investor day” as the calculation starting point, because this is the day that the first public investor starts investing in this fund and the fund starts generating NAV.
However, if local regulators accept seed money attached to the real performance and the fund company can show the entire history in the prospectus, we will accept it too. Picture 4b highlights how we will handle this scenario.

5. Fixed Offer Period/IPO Period

For funds that have an IPO period, we will use the beginning of the IPO period as the inception date, but will not begin to calculate returns until the end of the IPO period.

6. First Public Investor Date

Same as 4a, we will use “first public investor day” as the calculation starting point, because this is the day that the first public investor starts investing in this fund and the fund starts generating an NAV.
7. Can't get complete history data (most common reason: fund is too old)

When we can't get complete performance history for a fund, we begin calculating its returns, rankings and ratings on the first day a price is available in our database.

8. Re-domicile (only applies to non US funds)

When a fund changes domicile, we record the domicile change date but make no modifications to our calculations.

(TRE date stands for "track record extension" date)

But if there is significant strategy or legal structure change, picture 8b highlights our approach.
9. Legal structure change

When a hedge fund, separate account or collective investment trust converts to an open-end fund, we will carry over any prior performance but will not calculate ratings and rankings until the open end fund has enough history (3 years). For US domiciled funds, the rule is that when non-40 Act investments become registered 40 Act funds, we will carry over any prior performance but will not calculate ratings and rankings until the fund has enough history as a registered 40 act fund.

9b. CE to OE (majority of the time it fits 9b, but if the CE used a leveraged strategy that makes it inappropriate to apply to 9b, we will use 9a), UIT (Unit Investment Trust) to OE, Unit Trust to OE (EU), SICAV to FCP conversions

When a Closed-end fund or Unit Trust converts to an open end fund, or a SICAV fund converts to a FCP fund, 9b highlights our common practice.
10. Significant investment strategy change

When a fund changes its investment strategy significantly, we will begin calculating rankings and ratings versus its new peer group on the day the significant strategy change has been completed.

Return calculation starts

Ranking and Star Rating clock starts

Inception/AFS

Significant Strategy change

EF Fund

Equity fund

Add Significant Strategy Change Day.
Return won’t be affected, Ranking and Rating will be shown only since new strategy have at least 3 year history

Note: sometimes the fund will not complete the strategy change in one day (day X), it may take a few weeks for them to completely change the portfolio to reflect the new investment style (day Y). For US funds, we will get the holdings or at least hypothetical holdings to complete the category change, and we will mark the significant strategy change on day Y. But for most non US funds, they will use day X. Also, it’s a case by case situation. Whenever such a case happens, we need to make very clear comments in the database.

11. Dormant Fund

Extended Performance calculated (currently for US funds, and for non oldest share classes that went dormant)

When a fund goes dormant, meaning it loses all public investors, we will stop calculating returns, rankings and ratings. If the fund attracts new public investors, its real return, ranking and rating calculation begins on the first day new investors go in.
Real return and star rating calculations start once the Dormancy End Date is added, and extended performance calculation will also be triggered by Dormancy End Date.

No Extended Performance calculated (currently for non US funds, and for oldest share class or single share class that went dormant)

12. Suspended Fund

When a fund is suspended, meaning it temporarily has no price because its market has closed, we note the suspension period dates. We will not modify our calculation methodology.

©2011 Morningstar, Inc. All rights reserved. The information in this document is the property of Morningstar, Inc. Reproduction or transcription by any means, in whole or in part, without the prior written consent of Morningstar, Inc. is prohibited.
13. Extended Performance versus Track Record Extension

For Extended Performance

US funds use the Extended Performance Methodology. We will automatically calculate hypothetic returns based on the fund’s oldest share class performance data. Hollow star ratings will be calculated based on extended performance if the new share class doesn’t yet have 3 years of performance history. Picture 13a illustrates how we apply extended performance methodology.

For Track Record Extension

Non-US funds use the Track Record Extension methodology based on Fund companies’ request. Picture 13b illustrates our approach.
14. Basic Mergers

When a basic merger occurs, share class A merges into share class B. All operations and performance information for share class B remains, while all information for share class A becomes "inactive".

15. Performance Mergers

When a performance merger occurs, share class A merges into share class B, and A share is the accounting survivor. B share is the Legal Survivor. Picture 14 highlights our approach.
16. Fund Liquidation

When a fund is liquidated, we note the day it becomes obsolete and cease all performance calculations.

Note: sometimes the fund will not liquidate in one day (day X); it may take a few weeks for them to completely liquidate (day Y). For US funds, we will use day X as the obsolete day, for most non US funds, we will use day Y as the obsolete day. Also it’s a case by case situation. Whenever such case happens, we need to make very clear comments in the database.
<table>
<thead>
<tr>
<th>Event Name</th>
<th>Event Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory Registration</td>
<td>Fund registered with local regulation, but not open to investors and no assets</td>
</tr>
<tr>
<td>Incubator Fund</td>
<td>Fund company invested in their own fund before the fund became public/available for sale to investors</td>
</tr>
<tr>
<td>Fund started with Seed Money</td>
<td>Fund company invested in their own fund after it became public to investors but before the first real outside investor goes in. It can be the same as Inception/AFS. In rare situation, this day can be earlier than Inception/AFS Day.</td>
</tr>
<tr>
<td>Fixed Offer End</td>
<td>Fixed price period ends, we also call it IPO period ends</td>
</tr>
<tr>
<td>First Public Investor</td>
<td>First public investor goes in the fund and the fund starts issuing unit prices/portfolio valuations based on the real investors’ money.</td>
</tr>
<tr>
<td>Price History Incomplete</td>
<td>Can't get complete history data. If lag between Inception/AFS and Price History Available is less than 3 months, SI return will be calculated. Business rule will be in place to determine the SI and Rating calculation.</td>
</tr>
<tr>
<td>Fund Re-domicile</td>
<td>Fund changed domicile from one place to another, it may affect calculation depend on the specific situation.</td>
</tr>
<tr>
<td>Legal Structure Change</td>
<td>Fund changed its legal type</td>
</tr>
<tr>
<td>IMA restructure date</td>
<td>Only UK funds with an IMA sector would have this date if IMA's restructure date is different than ours. Reference only, will not affect calculation.</td>
</tr>
<tr>
<td>Significant Strategy Change</td>
<td>Fund changed its investment strategy</td>
</tr>
<tr>
<td>Dormant Fund</td>
<td>Fund has no assets and no investors, but still open to investors, usually happen for multiple shares in the fund and not the oldest share.</td>
</tr>
<tr>
<td>Suspended Fund</td>
<td>Fund still has investors and assets, but stopped trading due to the market</td>
</tr>
<tr>
<td>Performance Merger</td>
<td>A merge into B, A is accounting survivor, B is legal survivor</td>
</tr>
<tr>
<td>Basic Merger</td>
<td>A merge into B, B is both legal and accounting survivor</td>
</tr>
<tr>
<td>Fund Liquidation</td>
<td>Fund Liquidates and performance calculation ceases</td>
</tr>
<tr>
<td>TRE Start</td>
<td>Track Record Extension (Extended performance) calculated for non US funds based on fund company’s request</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Inception/AFS</td>
<td>Fund is first open to public investors and available for sale to public investors</td>
</tr>
<tr>
<td>Fund Company Inception</td>
<td>Inception day by fund companies definition, it can be same as ours, it can be different. Only store this date when fund company’s inception is different than ours. The purpose for storing this data point is to better track SI return discrepancies and also have clear reference for ourselves.</td>
</tr>
</tbody>
</table>