

# Enhancements in Morningstar Direct<sup>SM</sup> Performance Attribution

Mar 10 Release | Ver 3.8

- ▶ Include attribution results in reports created in Presentation Studio
- ▶ Single manager components:
  - ▶ Attribution effect horizontal bar
  - ▶ Attribution effect scatter plot
  - ▶ Attribution effect cumulative line graph
  - ▶ Total active return
  - ▶ Highest/Lowest
  - ▶ Contribution
- ▶ Multi-manager comparison components:
  - ▶ Attribution summary horizontal bar
  - ▶ Attribution summary scatter plot
  - ▶ Attribution detail bar chart
  - ▶ Attribution summary
- ▶ Total Portfolio Attribution enhancements
  - ▶ Select imported returns series for Aggregate(s) to calculation total portfolio attribution report
  - ▶ Use Aggregate as custom benchmark/policy
  - ▶ Enable market returns for closed-end funds and ETFs
  - ▶ Display Ending, Beginning, or Average Weights for Overall Period
  - ▶ Include multiple fees and customize fee labels in report
  - ▶ Show Intra-Month allocation changes in Weights view
  - ▶ Assign Manager Fee source (i.e. Annual Net Expense Ratio, Custom)
- ▶ View all available equity data points for calculation of portfolio statistics
- ▶ Additional security classifications (i.e. All Equity Data Points plus, Currency)
- ▶ Enhance Batch Management
  - ▶ More flexible scheduling options (i.e. n-th day of month)
  - ▶ Email report to Recipients
  - ▶ Export showing only holdings in portfolio
- ▶ Add display options for attribution effects scatter plot (i.e. All, Best & Worst, Portfolio Only)
- ▶ Suppress Bond, Cash, Equity Missing Performance, Other and Unidentified groups under Attribution Total when both selected portfolio and benchmark are zero for the period
- ▶ Enhance output format when exporting to Microsoft<sup>®</sup> Excel<sup>®</sup>
- ▶ Segment Numeric Rule-Based Buckets into Percentiles

Dec 09 Update

- ▶ Batch reporting for Total Portfolio Attribution
- ▶ Synchronize updates within user-defined Aggregates upon opening or calculation of attribution reports

Sep 09 Release | Ver 3.7

- ▶ Conduct total portfolio attribution to analyze the portfolio decision maker 's contribution to performance in the selection of investment managers and allocation of assets to each manager versus the strategic asset allocation policy
- ▶ Save time by batching attribution reports with a summary of attribution effect highlights displayed in Summary Report
- ▶ Create attribution Adobe<sup>®</sup> PDF<sup>®</sup> reports that include charts and tables to present the analysis
- ▶ Use Custom Security Info for Custom Sectors in report
- ▶ Maintain sort and filter from grid view when exporting to Microsoft<sup>®</sup> Excel<sup>®</sup>
- ▶ Type in lookup textbox to select portfolio and benchmark from single dialog
- ▶ Apply default benchmark based on portfolio selection including Analyst Assigned, Best Fit Index, ETF Proxy, Morningstar Index Proxy, Morningstar Category Average, MPT Benchmark, Primary Prospectus Benchmark
- ▶ Improve report calculation run-time

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Mar 09 Release | Ver 3.6.1

- ▶ Change Portfolio Analysis to Performance Attribution in the main left hand navigation
- ▶ Examine attribution using the Three-Factor Model to view the interaction term separate from the weighting and selection effects
- ▶ Filter to exclude benchmark holdings and only display portfolio holdings in report
- ▶ Perform multi-manager attribution at the asset class level for fund-of-funds
- ▶ Display return reported by the fund manager vs. calculated from attribution analysis
- ▶ Determine a cash proxy to perform attribution analysis
- ▶ Auto-calculate views in the report when change parameters
- ▶ Highlights view provides a summary of calculated attribution reports
- ▶ Attribution Holdings Data view details portfolio and benchmark holding dates
- ▶ Export all data views and details to Microsoft® Excel® with the ability to expand and collapse groupings

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Dec 08 Release | Ver 3.6

- ▶ Introduce Portfolio Analysis capability to conduct holdings-based performance attribution analysis on the equity portion of managed investment products
- ▶ Leverage Morningstar's extensive historical holdings database of more than 30,000 portfolios
- ▶ Drill-down to underlying securities of global open-end funds, separate accounts, market indexes, variable life/annuity subaccounts, fund of funds, 13Fs, closed-end funds, ETFs and user-created portfolios (Aggregates and Custom Funds)
- ▶ Available data views and reports for analysis:
  - ▶ Return contribution by individual or groups of securities
  - ▶ Attribution of portfolio's value-added over a selected benchmark
  - ▶ Portfolio weightings over multiple time periods
  - ▶ Performance over trailing time periods
  - ▶ Intra-day price movements of portfolio constituents
  - ▶ Portfolio level characteristics
  - ▶ Valuation metrics
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- ▶ Examine attribution effect by selecting a method that matches the specific investment process using Top-down, Bottom-up or Multiple-decision hierarchy
- ▶ Perform analysis using geometric or arithmetic calculations
- ▶ Organize data by pre-defined or custom groupings:
  - ▶ Long/Short
  - ▶ Regional and Country
  - ▶ Sector/Industry Classifications
  - ▶ Equity Characteristics (e.g., market cap, P/E ratio, etc.)
- ▶ Customize start and end date range and frequency of reporting periods
- ▶ Double-click on underlying holdings to view comprehensive security report