

Expected Return Methodologies in Morningstar Direct Asset Allocation

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I. INTRODUCTION

The goal of optimization is to help an investor build an investment portfolio that provides a range of protection and opportunity. To determine the composition of the optimal portfolio, one needs to know the nature of the possible returns of each asset class, along with the relationship between the different asset's returns. These expectations are known as optimization inputs. Optimizer inputs describe the probability distribution of future asset class returns and take into account the risk contained in the various asset classes.

Mean Variance Optimization requires three inputs:

- Expected return of each asset.
- Standard deviation of the returns.
- Correlation between asset returns.

The expected return must be viewed as part of the description of the entire distribution (assuming a quadratic distribution). Viewed alone, it measures the mean of the entire distribution of future outcomes. It may never be achieved as an outcome at all. The standard deviation portrays the dispersion of possible outcomes around the

expected return. Correlation quantifies the relationship with other asset classes. To decide whether it makes sense to invest in an asset class, all these elements must be viewed together, and compared with the nature of other asset classes. Each input viewed alone is insufficient for solving the portfolio selection problem.

You can use forecasts or historical statistics as inputs in Direct Asset Allocation. Historical estimates will tell us what has happened while forecasted estimates will tell us what we expect to occur. While there may be reasons to expect the future to repeat the past, historical inputs can be very time dependent and unstable as large structural or regulatory changes may change how these asset classes behave. For example, the S&P 500 has performed between 36.12% and -17.36% over a 5 year holding period between 1926 and 2001. If you were to model the expected return with S&P 500 for a five year investment horizon, there would be a large range of values that you could select from.

In addition to using historical returns and user-specified returns, Direct Asset Allocation provides three models for developing expected returns: Building Blocks, CAPM (Capital Asset Pricing Model), and Black-Litterman. We will detail these models below.

II. THE SHORT VERSION

Building Blocks and CAPM calculate forward-looking expected returns based on historical risk premiums and the current market condition. In both methods, the expected return is calculated by adding together historical risk premium(s) and the current risk free rate. Historical risk premiums are preferred over standard historical calculations since risk premiums have been found to be more consistent and stable over time. With the relative stable nature of risk premiums, you have more confidence predicting future returns. The major difference between Building Blocks and CAPM is in the risk premium calculation. Building Blocks calculates risk premium(s) by taking the arithmetic difference between two historical data series, while CAPM uses a regression approach.

The third model, the Black-Litterman method is a powerful and flexible model for creating a set of expected returns that in turn result in asset allocations that can be used in the real world. It can also incorporate a user's forward-looking views of the market in the expected returns. A set of implied returns for each asset class are first calculated from a given risk-free rate, market risk premium, and a set of market capitalization weights before the views are applied to arrive at the Black-Litterman expected returns for each asset class.

III. DETAILED METHODOLOGIES

Current risk free rates

Let's first discuss current risk free rates. Current Risk Free Rates are used in all three models mentioned above as current market expectations, for use in building expected returns, and are defined as the annual expected risk free rates over a given investment horizon.

Input Current Risk Free Rates in percent format and on an annual basis.

By default, Direct Asset Allocation defines the Current Risk Free Rate as the current yield on a U.S. Treasury strip (principal) with a maturity equal to the time horizon you specify in the Term box in the Baseline Settings subtab. For example, if the term is chosen as short-term, the current risk free rate is the current yield on a U.S. zero coupon Treasury bond that matures at least one year from today. The Treasury strip used is noted on the Historical Risk-Free Rate box.

Alternatively, you can input risk free rates for short term, intermediate term and long term investment horizons directly into the Current Risk Free Rate box.

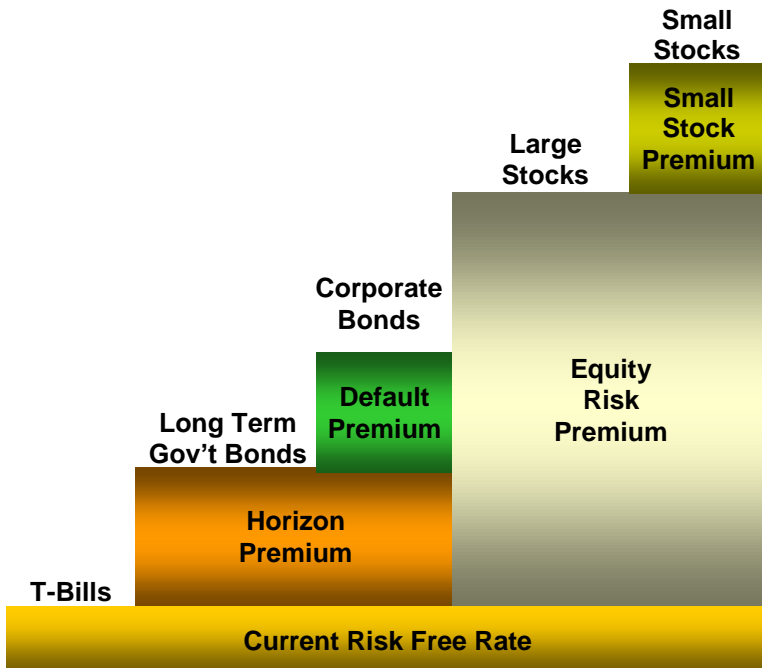
1. Building Blocks Methodology

i. Methodology

The Building Blocks approach applies the techniques developed by Ibbotson and Siegel. It's a method for determining the expected returns of Asset Classes. The premise of Building Blocks is that the return of an asset class can be broken down into several components which are more predictable than the asset class returns themselves. With the Building Blocks model, the expected return on an asset class represents the sum of the current risk free rate and one or more historical risk premia or building blocks. By combining current expectations with historical risk premia, you take into account current market conditions (the economic expectations of investors) and historical market returns. The use of risk premia versus a pure historical return increases the predictive power of the model since historical risk premia are more stable over time than the pure historical return of an asset class.

For Equity asset classes, the components are the risk free rate, the return you should expect for investing in equity over bond, and the return you should expect for investing in small cap over large cap. For fixed income, the components are the return you should expect for a riskless asset with any maturity component removed, the return you should expect for investing for a given horizon, and the return you should expect for investing in Corporate over Government bonds.

For example, the S&P 500 expected return is the sum of the Equity Risk Premium and the current yield on a zero-coupon bond with a maturity which matches the investor's appropriate time horizon. The building blocks are summed arithmetically. Please see the Estimates Sample Excel spreadsheet in Direct Learning Center for detailed examples.



Building Blocks - Equity

In the Set-up subtab, click the Building Block Equity radio button to refine equity assets with the Equity Building Blocks model. The Equity Building Blocks model can be broken up into up to three components: Current Risk Free Rate, Equity Risk Premium and a Custom Premium. The Custom Premium is a catch-all premium that captures the all types of risk premia beyond the equity risk premium. In order to refine the expected return of an equity asset, you can add two or more of these premiums together.

Example: Refining Small Equity

$$E(R) \text{ Small Equity} = \text{Current Risk Free Rate} + \text{Equity Risk Prem} + \text{Custom Prem}$$

$$\text{Risk Free} = \text{Current risk free rate expectation for your investment horizon}$$

$$\text{Equity Risk} = \text{Historical premium for investing in risky equities}$$

$$= (\text{Domestic Equity Premia Baseline Series}) - (\text{Historical Risk Free Rate series})$$

$$\text{Custom Prem} = \text{Historical premium for investing in risky small company stocks}$$

$$= (\text{Asset class to refine}) - (\text{Domestic Equity PBS})$$

Building Blocks - Fixed Income

In the Set-up subtab, click the Building Block Fixed Income radio button to refine fixed-income assets with the Fixed Income Building Blocks model. The Fixed Income Building Blocks model is broken up into three risk premiums: Cash, Bond Horizon Premium and Bond Default Premium. In order to refine the expected return of a fixed-income asset, you can add one or more of these premiums together.

Example: Refining Long-term Corporate Bonds

Let's refine the expected return of Long-term Corporate Bonds. This asset has an average maturity of 20 years.

Expected Return = Cash + Horizon + Default

Cash = Current risk free rate for your investment horizon with the maturity component removed
 = (Current Risk Free Rate) – (Horizon Premium)
 where,
 Horizon Premium = (Historical Risk Free Rate) – (Horizon PBS)

Horizon = Historical premium for investing in longer maturity bonds. Match the maturity of the asset with the Horizon box (min 0, max 20) in the Set-Up Building Block Fixed Income area.

If the Horizon = 1, 5, 20

= (Historical Risk Free Rate series) – (Horizon PBS)
 where,
 Historical Risk free rate series matches the maturity of the Horizon box. If you change the Horizon to 20, for example, the software will use the Long Term Historical Risk Free rate series.

If the Horizon = 2-4, 6-9, 11-19

= Horizon premium is calculated using the following interpolation formula:
 = $X \text{ Year Horizon Premium} = A + B/X + C * X$
 The 3 variables (A,B,C) are solved for using a series of 3 equations with 3 unknown variables (A, B, C) and three known variables (1, 5 and 20 Year Horizon premium):
 1 Year Horizon Premium = $A + B/1 + C * 1$
 5 Year Horizon Premium = $A + B/5 + C * 5$
 20 Year Horizon Premium = $A + B/20 + C * 20$
 Once you calculate the three variables, enter them into the interpolation formula and then solve for the Horizon Premium.

Default = Historical premium for investing in risky corporate bonds in order to compensate for the possibility of default.
= (Asset class to refine) – (Default Premium PBS)

ii. Set-Up in Direct Asset Allocation

Baseline Settings subtab

The Baseline Settings subtab is the second tab under the Arithmetic Mean tab. In this subtab, you can specify background information for the Building Blocks, CAPM, and Black-Litterman models. For these models you can select the investment horizon/term, enter current risk-free rates and select historical risk-free rates and premia baseline series.

Term

The Term is specified in Baseline Settings subtab. The term is the expected length of time or investment horizon you will hold your portfolio for. You can choose between short term, intermediate term and long term investment horizons. When you choose a specific horizon, it determines the current risk free rate and the Historical Risk Free Rate series used to build expected returns (Building Blocks, CAPM, and Black-Litterman models).

For example, if you choose Long Term as your investment horizon, Direct Asset Allocation utilizes the Long Term Current Risk Free Rate and the Long Term Historical Risk Free Rate data when refining the expected return for an asset.

To select an investment horizon, choose Short Term, Intermediate Term or Long Term in the Term drop-down box.

Current Risk Free Rate

Current Risk Free Rates can be entered in the Baseline Settings subtab. The Current Risk Free Rate is defined as the annual expected risk free rate over a given investment horizon. The Building Blocks, CAPM, and Black-Litterman models utilize these rates as current market expectations for use in building expected returns. If you would like to overwrite the default values, you can input risk free rates for short term, intermediate term and long term investment horizons directly into the three Current Risk Free Rate boxes. Input Current Risk Free Rates in percent format and on an annual basis.

Frequency Converting the Current Risk Free Rate

Direct Asset Allocation frequency converts the annual Current Risk Free when your expected return calculation is performed on a monthly, quarterly or semi-annual basis. The frequency conversion is done on a compound basis:

$$\text{Converted}R_f = (1 + \text{Current}R_f)^{\frac{x}{12}} - 1$$

where x = 1 if Monthly
3 if Quarterly
6 if Semi-Annual

iii. Use Case

Use Case 1: Steps to refine with the Building Blocks model

1. In the Set-Up subtab under Arithmetic Mean tab, select the Building Blocks models (Equity or Fixed Income) for the desired assets.
2. In the Baseline Settings subtab, select your term for your investment horizon and risk free rates, choose your Premia Baseline Series.
3. Click the Set-Up subtab again and then expand the Building Block Equity or Fixed Income bar. The calculated Expected Return will show on the monthly basis. If you wish to exclude a certain risk premium, uncheck the appropriate premium box.

Note: For the Horizon premium in a Fixed Income model, you need to change the Horizon box to match the maturity of the asset class(es) you are refining.

4. Click the Input Summary tab to view the resulting annualized expected returns.

Use Case 2: Change Premia Baseline Series

The following is an example on using the Premia Baseline Series and Historical Risk Free Rate Series. In the Building Blocks Equity model, the Equity Risk Premium is defined as:

$$\text{Equity Risk Prem.} = (\text{Domestic Equity Premia Baseline Series}) - (\text{Hist. Risk Free Rate})$$

By default, the Domestic Equity Premia Baseline Series is defined as the S&P 500 total return series. The S&P 500 index does not include the whole market capitalization of the U.S. equity market. For example, you may feel that the

Wilshire 5000 better represents the U.S. equity market since it represents nearly 100% of the market capitalization of all the publicly traded companies in the United States. To change the series, click on the Domestic Equity Premia Baseline Series button. From the select proxy window, choose Wilshire 5000 total market return and click OK. The Equity Risk Premium will now be calculated using the Wilshire 5000 instead of the S&P 500.

2. CAPM Methodology

i. Methodology

The capital asset pricing (CAPM) model builds on Harry Markowitz's work on modern portfolio theory, and was developed later by others, including William Sharpe. The CAPM says that the expected return of a security or a portfolio equals the rate on a risk-free security plus a risk premium. The model provides a linear expected return–beta relationship that determines the expected return given the beta, or systematic risk, of an asset. The security market line (SML) plots the linear relationship with beta on the x-axis and expected return on the y-axis.

The CAPM components (Risk Premia, Current Risk Free Rate and Regressions) are defined in the Baseline Settings subtab. The Risk Premiums are subtracted arithmetically and calculated using arithmetic means. Regressions are calculated over a historical risk free rate series, which is defined by the Historical Risk Free Rate series for a given investment horizon. You can control the calculations and the regressions by specifying the time period (Time Period boxes).

ii. Set-Up in Direct Asset Allocation

The CAPM in Direct Asset Allocation refines the expected return of assets based on the CAPM methodology with further development by Ibbotson Associates. It has been modified to incorporate longer historical data into the various risk premia.

The CAPM calculates the expected return of an asset in a two tiered approach:

- Calculate the market equity risk premium
- Build the expected return

CAPM - Calculation

Direct Asset Allocation builds the expected return based on the formula below.

$$\text{Expected Return} = A + B * C + D * E$$

Where,

A = Rf

The Risk Free Rate is defined as the Current Risk Free Rate for a given investment horizon.

B = Beta (Asset/Market)

The Beta is calculated from a regression with the refined asset defined as the dependent variable and the Market Portfolio Premia Baseline Series as the independent variable. The independent and dependent variables are calculated using excess returns (Refined Asset - historical risk free rate) and Market Equity Risk Premium (Market Portfolio Premia Baseline Series - historical risk free rate), where the historical risk free rate is defined as the Historical Risk Free Rate series for a given investment horizon.

C = Market Equity Risk Premium

The details for the Market Equity Risk Premium calculation are detailed below.

D = Alpha

The alpha is computed in two ways: user defined value or from the regression. By default, the alpha is calculated with the Beta (Asset/Market). In addition, you can overwrite the regression alpha with your value in percentage format.

E = %Alpha

The %Alpha defines how much of the alpha is added to the expected return of an asset. You can input a value from 0 to 100 (50=50% of the alpha) to determine the percent of alpha applied to the expected return. The default value is 0%.

In the CAPM calculation window, additional statistics are included: Standard Error (Alpha and Beta), T-Statistic (Alpha and Beta), R-Squared and adjusted R-Squared.

CAPM - market equity risk premium

In the CAPM framework, the market is a proxy benchmark that CAPM calculations must exceed in order for an asset to be worth investing in. In the absence of a true market portfolio, MSCI World Gross Return index is used as the default market proxy, as noted in the CAPM Market Portfolio PBS in Direct Asset Allocation.

The Market Equity Risk Premium (MERP) is modified by Morningstar Ibbotson in order to incorporate a longer historical time period (e.g., from the U.S. Equity index proxy) into the calculation of this premium. In this approach, the Market Equity Risk Premium is derived from the U.S. Equity Risk Premium in the following way:

- Standard CAPM (MERP) = [(Return on Market) - (Risk Free Rate)]
- Ibbotson CAPM (MERP) = U.S. Equity Risk Premium / Beta of U.S. vs. Market

U.S. Equity Risk Premium

The U.S. Equity Risk Premium is the average return (arithmetic mean) of the Domestic Equity Premia Baseline Series minus the average return (arithmetic mean) of the Historical Risk Free Rate for a given investment horizon.

Beta of U.S. vs. Market.

The Beta is calculated from a regression with the dependent variable represented by the Domestic Equity Premia Baseline Series and the independent variable equal to the Market Portfolio Premia Baseline Series. The independent and dependent variables are calculated using excess returns (Domestic Equity Premia Baseline Series - historical risk free rate) and (Market Portfolio Premia Baseline Series - historical risk free rate). Direct Asset Allocation defines the historical risk free rate as the Historical Risk Free Rate series for a given investment horizon.

iii. Use Case

To refine expected returns with the CAPM model:

1. In the Set-Up subtab under Arithmetic Mean tab, choose the CAPM model to refine the expected return for the desired asset(s).
2. In the Baseline Setting subtab, select your investment horizon and current risk free rate, and define your Premia Baseline Series.
3. Click the Set-Up subtab again and then expand the CAPM bar. Change the Time Period if needed.
4. Click Calculate.
5. View the calculated market premium and Expected Return will show on the monthly basis.

3. Black-Litterman methodology

i. Methodology

The Black-Litterman model was created by Fischer Black and Robert Litterman in the late 1980s. It is an approach for creating and refining mean-variance optimization inputs that result in better-diversified asset allocations. It resolves the issue of input sensitivity and produces asset allocations that are more intuitive and diversified than those produced using simple historical averages.

The Black-Litterman model starts with CAPM-based, market equilibrium expected returns derived using the reverse optimization approach proposed in Sharpe [1964]. The required inputs are the risk-free rate, an estimate of the market premium, estimates of each asset's market capitalization, and the asset class standard deviation and correlations. These starting expected returns can then be refined by incorporating the user's particular forward-looking beliefs, or "views", about the asset classes. The specification of views and confidence levels is at the user's discretion and requires professional judgment.

Black-Litterman model and resampled mean-variance optimization are two techniques that attack the problem of undiversified asset allocation in traditional Mean variance Optimization in two very different ways. The Black-Litterman model leads to a set of expected returns that behave better inside of an optimizer. Resampling employs Monte-Carlo simulation and is an attempt to build a better optimizer.

Reverse Optimization

Reverse optimization is a quantitative technique grounded in modern portfolio literature. In the traditional mean-variance optimization approach, we start with three inputs: returns, standard deviations, and correlations, which are used to determine the optimal asset allocations or weights. With reverse optimization we work in reverse. Rather than starting with returns and trying to find asset allocation, we start with a presumed efficient asset allocation (or asset class weights) and work in reverse to find the set of expected returns that make the starting set of asset allocations efficient.

The efficient asset allocation is represented by the market portfolio based on the initial asset class opportunity set. In its purest form, your working version of the market portfolio should try to include all of the tradable and non-tradable assets that belong in the unobservable global market capitalization weighted portfolio, which Modern Portfolio Theory tells should be the portfolio with the highest possible Sharpe Ratio. These weights represent one possible definition of market portfolio. It is of course reasonable to assume that market capitalization figures are reasonably efficient. If one of the asset classes was grossly over or undervalued, money would flow in or out of the asset class and the market would return to an equilibrium state. The market caps are used to calculate the relative weight of each individual asset class in the market portfolio.

Now with the set of asset weights, asset class volatilities, and correlations, you can infer the implied expected returns on the assets that make this set of weights optimal.

For a detailed description on the Black-Litterman methodology, please see [A Step by Step Guide to the Black-Litterman Model](#).

ii. Set-up in Direct Asset Allocation

The Black-Litterman set-up is located in the Arithmetic Mean tab. Below are a detailed explanation of the components and a description of how their values are determined.

Market Cap

Market Cap is the market capitalization amount, in billions, of the asset class represented by the asset series, if available. Direct Asset Allocation will supply you with market capitalization data for common indexes, especially for equity indexes, in the first column of the Black-Litterman table. If market cap is not available, a warning message will be displayed explaining how the market cap value may be defined, and the market value will default to one.

You may modify the market cap value for any asset by typing a new value directly into the Black-Litterman table.

For Barclays series of indexes, you can find the market cap values by looking up the MV (market value) version of a Barclays index and use the index data point “Market Price (Daily)” or “Daily Return Index”. Please note these values are in millions. So please convert them to billions before entering them into Direct Asset Allocation.

My Lists		Untitled Investment List								
Action	View	Index	Save	Add	Edit Data	Sort	Locate	Export	PDF	Refre
	Name	Market Price (Daily) USD	Total Ret 1 Day (Daily) USD	Total Ret 1 Wk (Daily) USD	Total Ret 1 Mo (Daily) USD	Total Ret 3 Mo (Daily) USD	Total Ret 6 Mo (Daily) USD			
<input type="checkbox"/>	1 Barclays US Corporate High Yield MV USD	1,390,578.00	0.23	0.64	0.87	5.12	3.40			

Market Cap Date

The Market Cap Date is the date (month/year) associated with the displayed Market Cap Data. If the value displayed is one you have entered directly, the market cap date will appear as “N/A”.

Market Premium

For the purpose of calculating a default market premium, the assets included and the market capitalization numbers specified are assumed to represent the market portfolio.

This market portfolio should consist of all the selected assets in your inputs file. The weights of this portfolio will be proportional to the market capitalization values shown on the Black-Litterman tab.

For time periods when not all of the asset classes have historical returns, the weights attributed to those asset classes will be distributed among the asset classes that have historical returns, proportional to the remaining weights.

Next, using the appropriate data frequency, and return display frequency listed on the Options tab, an Expected Return is calculated for the market portfolio for the specified Start and End dates.

The rate shown in the Risk-Free Rate text box will be subtracted from this expected return value and the result will be displayed in the Market premium text box.

A warning message will appear if the data range for the assets selected is less than three years.

Market Cap Data Update

When you create an inputs file using Black-Litterman, the market cap values that were used are stored in the inputs file. When you re-open the inputs file after the market cap database is updated, the original values will still appear in the Black-Litterman tab and will be used in the calculations. If you wish to update the inputs file with the current market cap data, you must explicitly do so by clicking the "Refresh Market Cap Data" button. Doing so will automatically refresh market cap values and refresh all calculations:

- For a series that is in the market cap database, the new value from the database will overwrite the previous value stored in the case, if the previous value was also from the database.
- For a series that is not in the market cap database, or for a series that you directly entered the market cap for, the previous market cap will be overwritten with the default value of 1.

Implied Return

The Implied Return is the starting expected return (as a percentage) calculated by the Black-Litterman model without incorporating any user views. It is calculated based on market cap data, risk-free rate, market premium, standard deviations and correlations. It is displayed in terms of the start and end dates defined. You may not modify the implied return directly, but the value is automatically recalculated when other values are modified.

If you don't agree with the calculated implied returns, the Black-Litterman model provides an elegant framework for combining the CAPM returns with your unique views that results in well-diversified portfolios that reflect your views.

You may enter these views as either absolute (i.e. large cap stock returns will be greater than 8% per year) or relative (i.e. large cap stocks will outperform small cap stocks by at least 2%). You may also create a relative view based on a group of assets (i.e. equities will outperform fixed income by 5%).

You are required to assign a confidence factor of 5% - 95% to each view, whether absolute or relative. The confidence level is a qualitative statement about the level of certainty one has in a view. All else equal, the higher the confidence, the more aggressively the final return estimates will reflect that view.

The user's views and associated confidence factors are incorporated into the final forecast of expected return for each asset.

Absolute View Return

The Absolute View Return is your stated prediction of how the particular asset will perform in the future. This is optional and the cell where the value is entered is empty by default. If you do enter a return value by typing it directly into the cell, it is assumed the value entered is a percentage and in terms of the display period. Entering a value of less than -100% or a value containing non-numeric text will not be accepted.

Absolute View Confidence

The Absolute View Confidence level is entered as a percentage value between 5 and 95. This value reflects the degree to which you believe your absolute view return is accurate. This value initially defaults to empty for all assets, but is automatically set to 50 when you type in an absolute view return. If you delete the value entered for absolute view confidence, the view will not be included in the Black-Litterman calculations. Entering an absolute view confidence value without an absolute view return will cause the absolute view to be ignored. If you enter a value less than 5 or greater than 95 or enter non-numeric text, an error message appears.

Relative Views

Relative Views provide a means for you to incorporate your beliefs about how assets will perform relative to each other rather than (or in addition to) predicting a specific performance value (the absolute view). The Relative Views table is initially empty. You may add views by clicking the "+ Relative View" button located below the table. This will bring up the Black-Litterman Relative View dialog. In this dialog, you may enter a relative view about individual assets or groups of assets by selecting one or more assets from each table. You also select whether the asset(s) on the left will outperform or underperform the asset(s) on the right, by how much one will outperform the other (as a percentage), and a percentage confidence factor. You can not select the same asset more than once, either on the same side or on each side. However, you may remove an asset from either of the two sides in the relative view tables by selecting "X" from the left of that asset.

After you click OK, the new view appears in the Relative Views table on the Black-Litterman tab and the Black-Litterman returns in the main table are recalculated and redisplayed. You may modify any part of an existing Relative View by opening the view in the Relative View dialog box. This can be done by clicking the edit button. Or you may delete a relative view by pressing the "X" button.

Black-Litterman Return

The Black-Litterman return is the Implied Return with your Absolute and Relative Views applied. It represents the results of the full Black-Litterman model forecast. You may not modify the Black-Litterman return directly, but the value is automatically recalculated when other values are modified.

Conceptually, the Black-Litterman returns are a complex weighted average of the Implied Returns and the view returns. All else equal, high view confidence levels will cause the Black-Litterman returns to be more reflective of the view returns than the implied returns.

iii. Use case

Refining Expected Returns Using Black-Litterman Model

Steps to refine expected returns:

1. In the Set-Up subtab, select the Black-Litterman model. As Black-Litterman model constructs a market portfolio using the asset classes you select, it is recommended to apply Black-Litterman for all of the assets in your opportunity set.
2. Press the Baseline Settings subtab and select a short, intermediate, or long-term time horizon, thus change the current Risk-Free Rate.
3. Back in the Set-Up subtab, click the Black-Litterman bar, you will see the start and end dates, and values for the Risk-Free Rate and the Market Premium. The Market Premium value is filled with a default value calculated based on the market capitalization weights listed below for each asset class.
4. Market Cap data is supplied for common indices. If no market cap data exists for a particular series, its market cap data will initially be one billion. You may overwrite the market value by typing a new value directly into the Black-Litterman table.
5. Implied Returns will be computed once market cap data is entered for all of the series in your input.
6. The Absolute View Return is a user stated view of how a particular asset will perform in the future. You may enter an absolute view return by typing directly into the table cell. The value entered is assumed to be a percentage specified in terms of the holding period. For example, if you have an annual display period specified in your input option and expect Asset A to return 8 percent per year, enter 8 in the Absolute View Return column next to Asset A.
7. Absolute View Confidence is the confidence level entered as a percentage value between 5 and 95. This value reflects the degree to which you believe your absolute view return is accurate. This value is automatically set to 50 when you enter an absolute view return. You may enter your Absolute View Confidence level by typing directly into the table cell.

8. Relative Views provide a means for you to incorporate beliefs about how assets will perform relative to each other rather than (or in addition to) predicting a specific performance value (the absolute view).
9. The Black-Litterman Returns are the implied returns with absolute and relative views applied. It represents the results of the full Black-Litterman model forecast. The Black-Litterman returns will be recalculated when other values are modified.
10. Expected Return results can also be viewed on the Inputs Summary tab.