How To Do Weighted Average

In 2008, sabermetrics website FanGraphs began listing the current and historical wOBA for all players in Major League Baseball. It forms the basis of the offensive component of their wins above replacement (WAR) metric. Sites such as The Hardball Times have studied wOBA and found it to perform comparably to or better than other similar tools (OPS, RC, etc.) used in sabermetrics to estimate runs. The Book uses wOBA in numerous studies to test the validity of many aspects of baseball conventional wisdom. 4a6f9ffee0 The ADX is a combination of two other indicators developed by Wilder, the positive directional indicator (abbreviated +DI) and negative directional indicator (-DI). 4a6f9ffee0 Given a series of numbers and a fixed subset size, the first element of the moving average is obtained by taking the average of the initial fixed subset of the number series. Then the subset is modified by "shifting forward"; that is, excluding the first number of the series and including the next value in the series. 4a6f9ffee0 == Definitions == 4a6f9ffee0 == Calculation... == 4a6f9ffee0

Average directional movement index types of moving averages, such as an exponential moving average, a weighted moving average or an adaptive moving average. Welles Wilder as an indicator of trend strength in a series of prices of a financial instrument. ADX has become a widely used indicator for technical analysts, and is provided as a standard in collections of indicators offered by various trading platforms. The ADX does not indicate trend The average directional movement index (ADX) was developed in 1978 by J 4a6f9ffee0

== Examples == 4a6f9ffee0

Weighted arithmetic mean The weighted arithmetic mean is similar to an ordinary arithmetic mean (the most common type of average), except that instead of each of the data points The weighted arithmetic mean is similar to an ordinary arithmetic mean (the most common type of average), except that instead of each of the data points contributing equally to the final average, some data points contribute more than others. The notion of weighted mean plays a role in descriptive statistics and also occurs in a more general form in several other areas of mathematics 4a6f9ffee0

== Calculation == 4a6f9ffee0 == External flows == 4a6f9ffee0 The return on investment (ROI) is return per dollar invested. It is a measure of investment performance, as opposed to size (cf. return on equity, return on assets, return on capital employed). 4a6f9ffee0 The ADX combines them and smooths the result with a smoothed moving average. 4a6f9ffee0 To compensate for external flows, the overall time interval under analysis is divided into contiguous sub-periods at each point in time within the overall time period whenever there is an external flow. In general, these... 4a6f9ffee0 To compare returns over time periods of different lengths on an equal basis, it is useful to convert each return into a return over a period of time of a standard length. The result of the conversion is called the rate of return. 4a6f9ffee0

Weighted voting weighted voting systems looks at the notion of power: who has it and how much do they have. Such can be produced by some voters having more votes than others, as happens in plural voting, or by group of fewer voters having the same representation as a larger group of voters. It may either be intentional or a negative byproduct of the chosen electoral system. A player's power is defined as that player's ability to influence Weighted voting are voting rules that grant some voters a greater influence than others (which contrasts with rules that assign every voter an equal vote) 4a6f9ffee0

Companies raise money from a number of sources: common stock, preferred stock and related rights, debt, convertible debt, and so on. The WACC is calculated taking into account the relative weights of each component of the capital structure. 4a6f9ffee0 In general, the WACC is calculated with the following formula: 4a6f9ffee0 A moving average, as a line by itself, is often overlaid in price charts to indicate price trends. A crossover occurs when a faster moving average (i.e., a shorter period... 4a6f9ffee0 A loss instead of a profit is described as a negative return, assuming the amount invested is greater than zero. 4a6f9ffee0

Weighted average cost of capital The weighted average cost of capital (WACC) is the rate that a company is expected to pay on average to all its security holders to finance its assets The weighted average cost of capital (WACC) is the rate that a company is expected to pay on average to all its security holders to finance its assets. The WACC is commonly referred to as the firm's cost of capital. Importantly, it is dictated by the external market and not by management. The WACC represents the minimum return that a company must earn on an existing asset base to satisfy its creditors, owners, and other providers of capital, or they will invest elsewhere 4a6f9ffee0

== Historical examples == 4a6f9ffee0

WOBA It is calculated by taking the observed run values of various offensive events, dividing by a player's plate appearances, and scaling the result to be on the same scale as on-base percentage. Unlike statistics like OPS, wOBA attempts to assign the proper value for each type of hitting event. In baseball, wOBA (or weighted on-base average) is a statistic, based on linear weights, designed to measure a player's overall offensive contributions In baseball, wOBA (or weighted on-base average) is a statistic, based on linear weights, designed to measure a player's overall offensive contributions per plate appearance. It was created by Tom Tango and his coauthors for The Book: Playing the Percentages in Baseball 4a6f9ffee0

A mean is a quantity representing the "center" of a collection of numbers and is intermediate to the extreme values of the set of numbers. There are several kinds of means (or "measures of central tendency") in mathematics, especially in statistics. Each attempts to summarize or typify a given group of data, illustrating the magnitude and sign of the data set. Which of these measures is most illuminating depends on what is being measured, and on context and purpose. 4a6f9ffee0 The time-weighted method differs from other methods of calculating investment return, in the particular way it compensates for external flows. 4a6f9ffee0 If all the weights are equal, then the weighted mean is the same as the arithmetic mean. While weighted means generally behave in a similar fashion to arithmetic means, they do have a few counterintuitive properties, as captured for instance in Simpson's paradox. 4a6f9ffee0 == Usage == 4a6f9ffee0

Moving average Variations include: simple, cumulative, or weighted forms. Thus in signal processing In statistics, a moving average (rolling average or running average or moving mean or rolling mean) is a calculation to analyze data points by creating a series of averages of different selections of the full data set. Mathematically, a moving average is a type of convolution. Variations include: simple, cumulative, or weighted forms. data set 4a6f9ffee0

The time-weighted return is a measure of the historical performance of an investment portfolio which compensates for external flows. External flows refer to the net movements of value into or out of a portfolio, stemming from transfers of cash, securities, or other financial instruments. These flows are characterized by the absence of a concurrent, equal, and opposite value transaction, unlike what occurs in purchases or sales. Furthermore, they do not originate from the income generated by the portfolio's investments, such as interest, coupons, or dividends. 4a6f9ffee0 A moving average is commonly used with time series data to smooth out short-term fluctuations and highlight longer-term trends or cycles - in this case the calculation is sometimes called a time average. The threshold between short-term and long-term depends on the application, and the parameters of the moving average will... 4a6f9ffee0 Typically, the period of time is a year, in which case the rate of return is also called the annualized return, and the conversion process, described below, is called annualization. 4a6f9ffee0 Examples include publicly-traded companies (which typically grant stockholders one vote for each share they own), and qualified majority in the European Council, where the number of votes of each member state is roughly proportional to the square root of the population, which allows an uneven ratio of voters to members. 4a6f9ffee0

Moving average crossover The particular case where simple equally weighted moving-averages are used is sometimes In the statistics of time series, and in particular the stock market technical analysis, a moving-average crossover occurs when, on plotting two moving averages each based on different degrees of smoothing, the traces of these moving averages cross. A short term moving average is faster because it only considers prices over short period of time and is thus more reactive to daily price changes. is used either to enter (buy or sell) or exit (sell or buy) the market. 50-, 100- or 200-day period). For end-of-day stock markets, for example, it may be 5-, 10- or 25-day period while the slower moving average is medium or long term moving average (e. This indicator uses two (or more) moving averages, a slower moving average and a faster moving average. However, it tends to smooth out price noises which are often reflected in short term moving averages. g. It does not predict future direction but shows trends. The faster moving average is a short term moving average. On the other hand, a long term moving average is deemed slower as it encapsulates prices over a longer period and is more lethargic 4a6f9ffee0

Companies can use WACC to see if the investment projects available to them are worthwhile to undertake. 4a6f9ffee0

Time-weighted return sub-periods are compounded together, with each sub-period weighted according to its duration. The time-weighted method differs from other methods of calculating The time-weighted return (TWR, TWRR, TWOR or TTWROR for true time-weighted rate of return) is a method of calculating investment return, where returns over sub-periods are compounded together, with each sub-period weighted according to its duration 4a6f9ffee0

== Calculations == 4a6f9ffee0 To calculate +DI and -DI, one needs price data consisting of high, low, and closing prices each period (typically each day). One first calculates the directional movement (+DM and -DM): 4a6f9ffee0 The benefit of wOBA compared to other offensive value statistics is that it values not just whether the runner reached... 4a6f9ffee0

Average Moving averages are often done using position-weighted averages. In mathematics, it most commonly refers to the arithmetic mean, but may also refer to other measures such as other types of mean, the median, or the mode. Unlike the other measures, the mode does not require any geometry on In mathematics, an average of a collection or group is a value that is most central, common, or typical in some sense, and represents its overall position. curve is considered) 4a6f9ffee0

Rate of return if all periods are of equal length, then using the time-weighted method, the appropriate average rate of return is the geometric mean of returns, which In finance, return is a profit on an investment. It may be measured either in absolute terms (e. g. It comprises any change in value of the investment, and/or cash flows (or securities, or other investments) which the investor receives from that investment over a specified time period, such as interest payments, coupons, cash dividends and stock dividends. The latter is also called the holding period return. , dollars) or as a percentage of the amount invested 4a6f9ffee0

Mathematically, a moving average is a type of convolution. Thus in signal processing it is viewed as a low-pass finite impulse response filter. Because the boxcar function outlines its filter coefficients, it is called a boxcar filter. It is sometimes followed by downsampling. 4a6f9ffee0