CALCULATING SIMPLE BETA

First download the weekly values of the market index (S&P) and the stock prices

Next we will calculate simple, upside and downside Betas

STEP 1

CALCULATING SIMPLE BETA

For example, you expect the market to fall next week. Choose the stock with a lowest Downside Beta

Why do you need to calculate Upside Beta?

We have already discussed the calculation of simple Beta here: http://www.efmaefm.org/efma2006/papers/310329_full.pdf

For the calculation of Upside Beta we need to exclude all negative returns of market's returns because we analyze the stocks' behavior on growing market.

The formula for Downside Beta looks like this:

= if (S&P return < 0, value of S&P return, 0)

Use "if" excel function to choose only negative values of S&P returns (see "Downside Changes" column to the right)

Why do you need to calculate Upside Beta?

We calculated the simplest Upside and Downside Betas to measure the stocks' performance on growing and falling market. But you can also calculate Betas relative to a risk free rate.

For example: If Beta equals 1.2, this means that when market goes up/down by 1%, the stock grows/falls by 1.2% (in theory of course)

Beta shows whether the stock grows/falls faster or slower than the market.

Upside and Downside Beta

We use weekly data, because we want to analyze the stock's performance over the week

We can use daily, monthly, yearly data if you need.

We use monthly data, because we want to analyze the stock's performance over a month. We also have weekly data.

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CALCULATING DOWNSIDE BETA

For the calculation of Downside Beta we need to exclude all positive returns of market's returns because we analyze the stocks' behavior on falling market.

Use "if" excel function to choose only negative returns of S&P returns (see "Downside Changes" column to the right)

Then use "if" function to choose only those return values of the stocks which correspond to the negative values of S&P's returns

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