

Calculating beta in excel

Step 1. Download the data for SP 500 and calculate rolling returns. Make sure that you use the same data range that you used for other stocks. For example, if the data that you downloaded for your stocks starts in January 2010 and ends in March 2016, then the data for SP 500 should have the same range.

The screenshot shows the Yahoo Finance homepage as of April 26, 2016. The top navigation bar includes links for Home, Mail, Search, News, Sports, Finance, Celebrity, Weather, Answers, Flickr, Mobile, and More. The main content area displays market data for the S&P 500, Dow Jones, and Nasdaq. A blue arrow points to the 'Quote Lookup' button in the left sidebar. The right sidebar features a 'Follow Yahoo Finance' section with social media links and a 'My Portfolio' section.

Recent Quotes you view appear here for quick access.

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Tue, Apr 26, 2016, 9:16pm EDT - US Markets are closed

S&P 500 2,091.70 +3.91 (0.19%)
Dow 17,990.32 +13.08 (0.07%)
Nasdaq 4,888.28 -7.51 (0.15%)

Crude Oil 44.51 +1.07% Gold 1,246.50 +0.25% EUR/USD 1.1307 +0.07% 10-Yr Bond 1.93 +1.52%

Apple sales tumble, earnings whiff, stock tanks
AAPL 104.35 -0.73 (-0.69%)
Apple iPhone, iPad, and Mac sales tumble.

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Obama Increases Amount Seniors Can Get From Reverse Mortgages
SELECT YOUR AGE:
62-65 66-70
71-75 Over 75

The screenshot shows the Yahoo Finance Historical Prices page for the S&P 500. The page includes a 'Set Date Range' section with dropdown menus for Start Date (Jan 3, 2010) and End Date (Mar 27, 2016). The 'Prices' table displays daily stock prices from April 26, 2016, back to March 31, 2016. The table columns are Date, Open, High, Low, Close, Volume, and Adj Close*.

Historical Prices

Get Historical Prices for: [] GO

Set Date Range

Start Date: Jan 3, 2010 Eg. Jan 1, 2010
End Date: Mar 27, 2016

Get Prices

Prices

Date	Open	High	Low	Close	Volume	Adj Close*
Apr 26, 2016	2,089.84	2,096.87	2,085.80	2,091.70	3,557,190,000	2,091.70
Apr 25, 2016	2,089.37	2,089.37	2,077.52	2,087.79	3,319,740,000	2,087.79
Apr 22, 2016	2,091.49	2,094.32	2,081.20	2,091.58	3,790,580,000	2,091.58
Apr 21, 2016	2,102.09	2,103.78	2,088.52	2,091.48	4,175,290,000	2,091.48
Apr 20, 2016	2,101.52	2,111.05	2,096.32	2,102.40	4,184,880,000	2,102.40
Apr 19, 2016	2,096.05	2,104.05	2,091.68	2,100.80	3,896,830,000	2,100.80
Apr 18, 2016	2,078.83	2,094.66	2,073.65	2,094.34	3,316,880,000	2,094.34
Apr 15, 2016	2,083.10	2,083.22	2,076.31	2,080.73	3,701,450,000	2,080.73
Apr 14, 2016	2,082.89	2,087.84	2,078.13	2,082.78	3,785,870,000	2,082.78
Apr 13, 2016	2,065.92	2,083.18	2,065.92	2,082.42	4,191,830,000	2,082.42
Apr 12, 2016	2,043.72	2,065.05	2,039.74	2,061.72	4,239,740,000	2,061.72
Apr 11, 2016	2,050.23	2,062.93	2,041.88	2,041.99	3,567,840,000	2,041.99
Apr 8, 2016	2,045.54	2,060.63	2,041.69	2,047.60	3,359,530,000	2,047.60
Apr 7, 2016	2,063.01	2,063.01	2,033.80	2,041.91	3,801,250,000	2,041.91
Apr 6, 2016	2,045.56	2,067.33	2,043.09	2,066.66	3,750,800,000	2,066.66
Apr 5, 2016	2,062.50	2,062.50	2,042.56	2,045.17	4,154,920,000	2,045.17
Apr 4, 2016	2,073.19	2,074.02	2,062.57	2,066.13	3,485,710,000	2,066.13
Apr 1, 2016	2,056.62	2,075.07	2,043.98	2,072.78	3,749,990,000	2,072.78
Mar 31, 2016	2,063.32	2,063.32	2,063.32	2,063.32	3,315,280,000	2,063.32

Step 2. Use the =slope function in excel and use stock return as the known Y's and SP 500 return as known Xs. So if you have WMT and FB in your portfolio you would calculate the betas in the following manner: =slope(WMTreturncolumn,SPreturncolumn) and slope(FBreturncolumn,SPreturncolumn) and you would do it for each stock in your portfolio.

Step 3. Remember that

- A beta of 1 implies the asset has the same systematic risk as the overall market
- A beta < 1 implies the asset has less systematic risk than the overall market
- A beta > 1 implies the asset has more systematic risk than the overall market
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Step 4. Portfolio beta is simply

$$\beta_p = W_1 \times \beta_1 + W_2 \times \beta_2 + \dots + W_n \times \beta_n$$

you just take the individual betas and do a weighted average.