Technical Document

**Factor Analysis**

**2015**

**Revisions**

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# Mathematical Formula

This tool performs a linear regression on a dataset given in a excel spreadsheet (say “filename.xls”).

## Format

The data should be presented in the following format: the first column should be the dependent variable Y, following by the independent variables X in the following columns. Each row corresponds to a single daily observation. There is no limit on the number of independent variables as well as on the number of observations.

## Syntax

The tool runs from the command prompt and has the following syntax:

performRW.exe filename sheetname rw1 rw2 rw3…

where “sheetname” is name of the sheet where the data are saved, and rw1, rw2, rw3 and so on are the size of the time windows used for the rolling regression. Note that there is no limit for the number of time windows used.

## Results

The regression produces the beta coefficients and the intercept, the t-statistics and the r-squared. The results are stored in that order back to the data file in a new sheet which follows the naming convention “sheetname-RWxx” where xx is the number of the abovementioned rolling window.