

## Downloading GuruFocus Data into Excel: the Powerful GURUF

New feature highlight

The [GuruFocus Excel Add-in](#) works best for members who generate statistical models with stock financial data as part of their investment strategy. In 2017, GuruFocus launched a powerful upgrade to the Excel Add-in with a user-defined function called GURUF. This tutorial article will discuss several ways to utilize the GURUF function.

### GURUF Function Preliminaries

Like all Microsoft applications, you must first install the GURUF function before you can use the application. To install the GURUF function, first log in to the GuruFocus Excel Add-in as illustrated in Figure 1. Your login credentials for the Add-in is the same username and password you use to login to GuruFocus.



Figure 1

Click on the “Insert Guru Function” button in the “Guru Function (Beta Testing)” section of the ribbon (the “f(x)” button from Figure 1 above). If you have downloaded the function, you will see a pop-up screen listing the available parameters, which we will discuss later in this tutorial. If you have not used the GURUF function before, you will see a dialog box like the one in Figure 2.

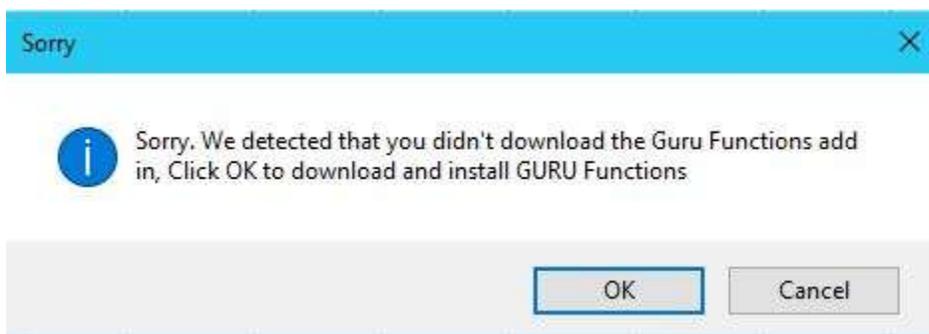
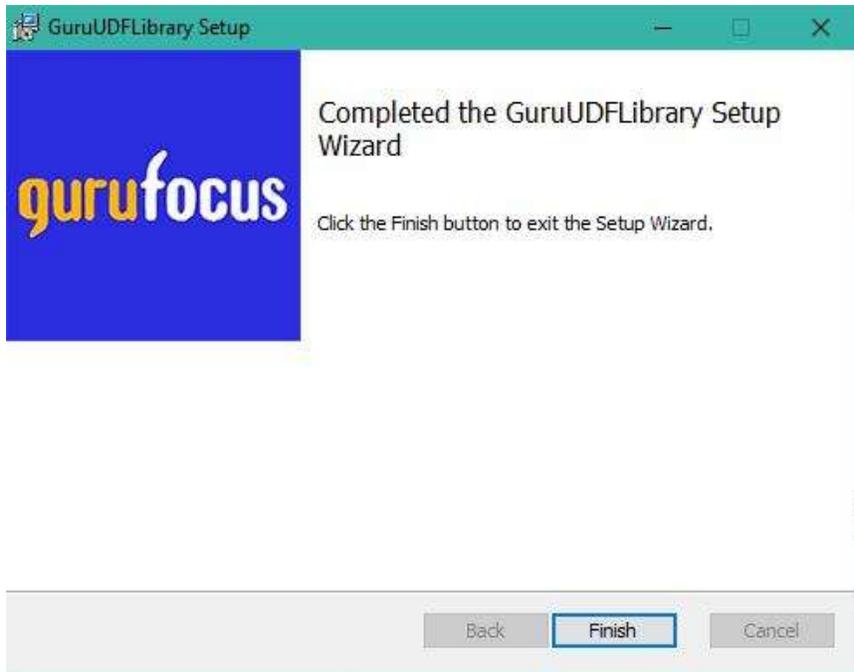


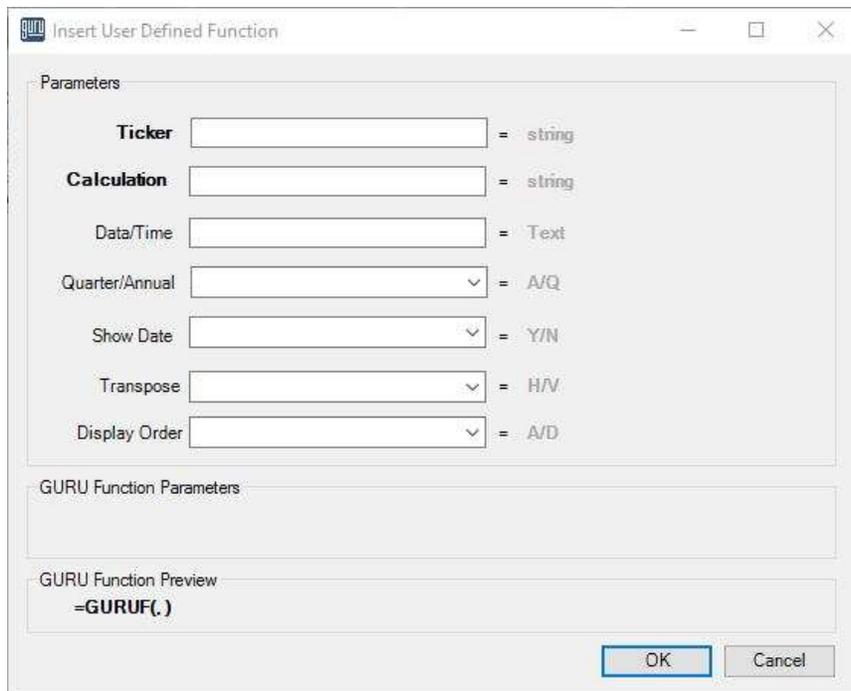
Figure 2

Click on OK to begin downloading the “GuruUDFLibrary” setup wizard to your computer. Throughout the installation process, please click on OK and Next buttons as directed. Once the GURUF function finishes installing, you should see a window like in the one in Figure 3.



**Figure 3**

To begin implementing the GURUF function, click on “Finish” and restart Excel. After you log in to the Excel Add-in, click on the “Insert Guru Function” to pop-up a window like the one in Figure 4.



**Figure 4**

As illustrated in Figure 4, the GURUF function contains seven parameters: ticker, calculation, date, quarter/annual, show date, transpose and display order. Each of these parameters either determines the data retrieved or controls the output layout. The first two parameters, ticker and calculation, are required (note the boldface in Figure 4) while the remaining are optional.

For the “ticker” parameter, please type in the company stock you wish to retrieve data from. All of the following are acceptable forms for **Apple Inc.** (AAPL):

- “AAPL”
- “NAS:AAPL”
- “apl”
- “AapL”

The “calculation” parameter determines which financial metric data should the user-defined function return. For example, if you type “Revenue per Share” or a similar form, like “ReVeNuE pEr ShArE,” the function retrieves the [revenue per share](#) for the entered ticker symbol.

If you only input the above two parameters, you will receive one entry that lists the current value corresponding to the two parameters.

Examples: “=GURUF(“AAPL”,“Revenue per Share”)” returns a single entry listing Apple Inc.’s revenue per share, which is currently \$40.09 for the trailing 12 months as of December 2016.

“=GURUF(“AAPL”,“fscore”)” returns a single entry of 5, the current [Piotroski F-score](#) of Apple Inc.

The above two parameters are just the foundation of the GURUF function as there are five other parameters that allow you to retrieve historical data and control the data layout as mentioned in Figure 4 above. The “date” parameter, for example, allows you to retrieve financial data for a specific date range, like 2013 to 2016 or the past 20 quarters. You can then retrieve annual or quarterly data by setting the “quarter/annual” parameter accordingly.

Examples: “=GURUF(“AAPL”,“fscore”,“2013:2016”)” returns an array listing Apple Inc.’s annual Piotroski F-score for years 2013 to 2016 as the “quarter/annual” parameter is set to “A” by default. To show the quarterly Piotroski F-scores, you must add the “Q” parameter to your Excel function, e.g., “=GURUF(“AAPL”,“fscore”,“2013:2016”,“Q”)”.

You can also select the past **n** years or quarters by entering “-**n**” for the “date” parameter and the appropriate “quarter/annual” parameter. For example, (“-4”,“A”) retrieves data for the past four years while (“-4”,“Q”) retrieves data for the past four quarters.

NOTE: Before we discuss the further parameters, we must discuss some important considerations regarding the “calculation,” “date” and “quarter/annual” parameters:

- The GURUF function groups the calculations into three categories:
  - “price” calculations, which only have daily data

- “financial” calculations, which can have current, annual or quarterly data
- “stock” calculations, which only have current data
- If you type in the calculation using the pop-up window (Figure 4), you will see the calculation names followed by two vertical lines and a string of letters (D, A, Q or C) listing the type of calculation.
- The type of calculation controls the nature of the “date” and “quarter/annual” parameters. For example, as “price” has calculation type D, if you set the “date” parameter as “-7,” you will retrieve the company’s share price for the past week (seven days).
  - The “date” and “quarter/annual” parameters do not work for “stock” calculations as these calculations only have current data. Such calculations include the [financial strength rank](#), [profitability rank](#) and the [GuruFocus Business Predictability Rank](#).
  - The “quarter/annual” parameter only works for “financial” calculations that have quarterly and annual data. Although most of the calculations are “financial” calculations, there are also “stock” and “price” calculations as mentioned above.

The final parameters control the layout of the data array:

- “Show date”: If you set this to “Y” or “Yes,” the GURUF function retrieves the date along with the financial data. By default, the function does not show the dates.
- “Transpose”: You can arrange the data horizontally (“H”) or vertically (“V”). By default, the function arranges the data horizontally.
- “Order”: You can order the historical data in ascending order (A, ASC) or descending order (D, DESC). By default, the function arranges the data in ascending order, i.e., oldest to newest.

Once you finish setting the parameters, click on the “OK” button to run the GURUF function. You should see “#LOADING” messages indicating that the function is running in the background. You will see the retrieved data as soon as the function completes. Figure 5 shows a sample GURUF output displaying the revenue per share, EBITDA per share and earnings per share without nonrecurring items for Apple Inc.

Quarterly Metrics												
Date	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Revenue per Share	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
EBITDA per Share	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
eps_nri	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Figure 5

### How is the GURUF function powerful?

Unlike other Excel Add-in features like the Equity Screen and Financial Data Tool, the GURUF function can be nested within other Excel functions like SUM, COUNT and AVERAGE. This allows us to go beyond our current database and run deeper analysis on the data. The GURUF function, for example, can facilitate computing revenue growth rates as illustrated in the [GuruFocus Growth Rate Calculation Example spreadsheet](#).

For each company, GuruFocus computes the revenue growth rate for the following periods: one-year, three-year, five-year and 10-year. We compute the growth rates for the periods using different methods. Additionally, we compute the one-year growth rates using quarterly data and the other three using annual data.

To compute the one-year revenue growth rate, you will need the company's revenue growth rate for the past eight quarters. You can retrieve this data with the following user-defined function:

$$=GURUF(<ticker>,"Revenue per Share",-8,"Q")$$

You should get an 1x8 array like the one shown in Table 1.

A1	B1	C1	D1	E1	F1	G1	H1
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**Table 1: The entries in cells E1 to H1 represent the company's revenue per share for the latest four quarters while the entries in cells A1 to D1 represent the company's revenue per share for the four quarters prior.**

To compute the 12-month (one-year) revenue growth rate, simply take the sum of the entries in cells B1 to B4 divided by the sum of the entries in cells A1 to A4 and subtract one from the quotient.

$$=SUM(E1:H1)/SUM(A1:D1) - 1$$

For the three-year revenue growth rate, we first compute the ratio of annual revenue per share from the latest year (e.g. 2016) to the annual revenue per share from three years ago (e.g. 2013). We then take the ratio, raise it to the one-third power and subtract one from the exponent.

Table 2 shows a sample 1x4 array that displays the following upon retrieving the company's revenue per share data for the past four years.

(GURUF function required: =GURUF(<ticker>,"Revenue per Share",-4,"A")

A2	B2	C2	D2
----	----	----	----

**Table 2: The entries in cells A2 to D2 represent the company's revenue per share for the latest four years.**

You can compute the company's three-year revenue growth rate using the following Excel formula:

$$=(D2/A2)^(1/3)-1$$

Finally, GuruFocus computes the five-year revenue growth rate and the 10-year revenue growth rate using loglinear least-squares regression. Unlike the one-year and three-year revenue growth rates, the five-year and 10-year revenue growth rates do not require you to first retrieve the data. With GURUF and the following Excel functions, you can compute the company's five-year and 10-year growth rates with one formula, which illustrates the powerful nature of the user-defined GURUF function. First, please enter the values shown in Table 3 in cells A3 to K3:

0	1	2	3	4	5	6	7	8	9	10
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**Table 3: We will need the values in cells A3 to K3 for the “known x’s” parameter for Excel’s LINEST function.**

You can then retrieve the company’s five-year revenue growth rate and 10-year revenue growth rate using the following formulas:

$$=10^{(\text{LINEST}(\text{LOG10}(\text{GURUF}(\text{<ticker>}, \text{“Revenue per Share”}, \text{“-6”}, \text{“A”})), \text{A3:F3})) - 1}$$

(for five-year revenue growth rate)

$$=10^{(\text{LINEST}(\text{LOG10}(\text{GURUF}(\text{<ticker>}, \text{“Revenue per Share”}, \text{“-11”}, \text{“A”})), \text{A3:K3})) - 1}$$

(for 10-year revenue growth rate)

Figure 6 shows a sample GURUF spreadsheet that contains Apple’s revenue growth rates as of December 2016.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	9.942	8.592	8.89	13.563	9.124	7.74	8.518	14.706					-2.19%
2	26.207	29.855	40.344	39.205									14.37%
3	0	1	2	3	4	5	6	7	8	9	10		18.89%
4													31.74%

**Figure 6: Cells M1, M2, M3 and M4 contain Apple’s one-year, three-year, five-year and 10-year revenue growth rates respectively.**