

# Financial Management

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## Seminar 10

### Content:

- Sources of financial data
- Downloading data from Alpha Vantage

## Obtaining financial data

Unadjusted stock prices are easily available online, but they should not be used: we need data adjusted for dividends and stock splits.

- There are many professional data providers, but most are very expensive. E.g. Datastream or Bloomberg
- Data from there usually also require to be cleaned (for missing and/or wrong data)
- Yahoo finance provides free data, but maybe not the most reliable source

## Obtaining financial data

A good alternative is Alpha Vantage:

<https://www.alphavantage.co/>

- Many data are free (though with daily download limits). Other require a cheap subscription.
- Not a huge variety of data, but no need for cleaning
- Easy to download data directly in Excel using the add-in

Risk-free rates and market excess returns (and more) are available at the French data library:

[https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\\_library.html](https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html)

## Obtaining financial data

Other free sources a various financial data:

- <https://www.openassetpricing.com/>
- <https://www.msci.com/>
- <https://fred.stlouisfed.org/>

Siblis Research provides the composition of the most important stock indices, and other useful data.

Not free, but relatively inexpensive.

<https://siblisresearch.com/>

## Downloading data from Alpha Vantage

Go to <https://www.alphavantage.co/> and click on “GET FREE API KEY”

### Stock Market API, *Reimagined*

- ▶ Realtime & historical stock market data APIs
  - ▶ Forex, commodity & crypto data feeds
  - ▶ 60+ technical & economic indicators
  - ▶ Market news API & sentiments
  - ▶ Global coverage

STOCK MARKET API

GLOBAL NEWS API

GET FREE API KEY

## Downloading data from Alpha Vantage

Next, fill the required fields and click again on “GET FREE API KEY”. The API will appear on the same page.

Which of the following best describes you?

Student



Organization (e.g. company, university, etc.):

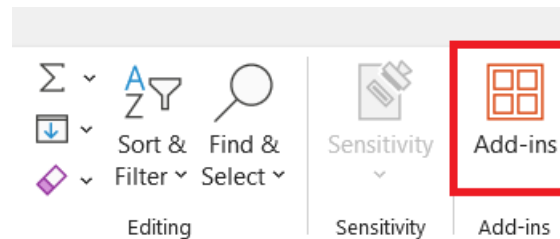
Masaryk University

Email:

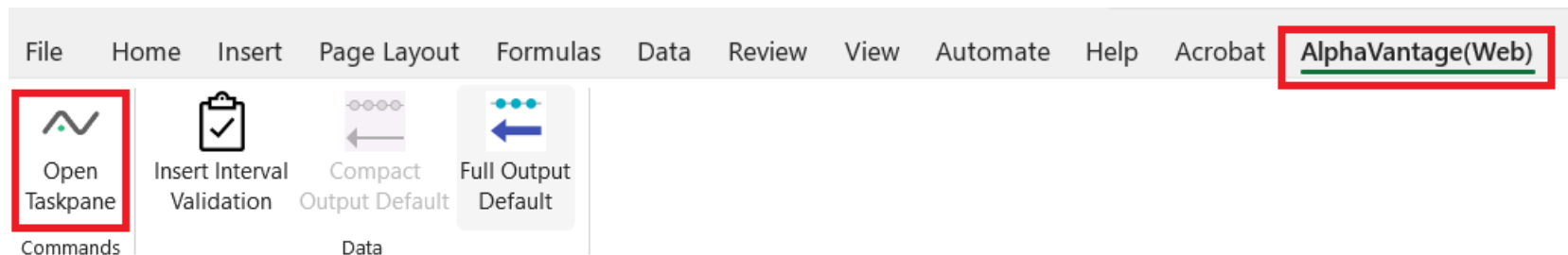
GET FREE API KEY

# Downloading data from Alpha Vantage

Now open Excel and get the Alpha Vantage add-in. To find it click on “Add-ins” and then search for it. You might need to change some privacy settings in order to add it.



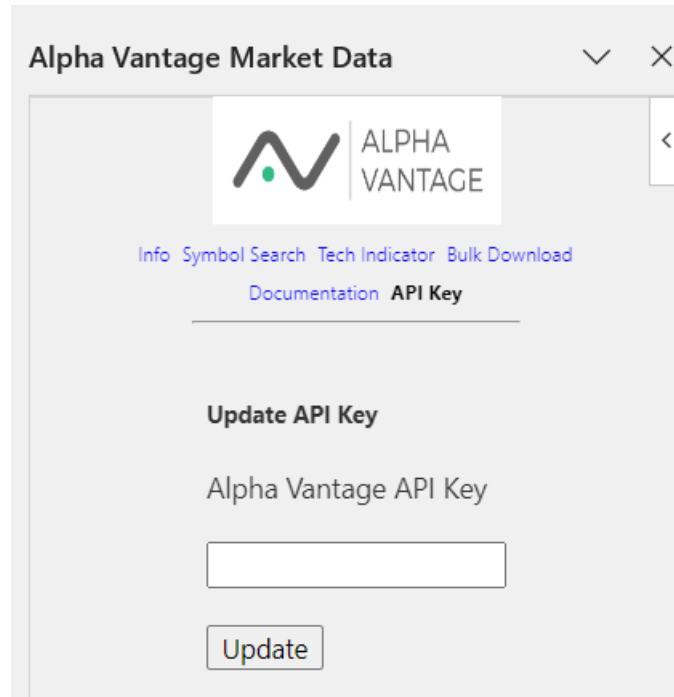
You should now have a new “AlphaVantage(Web)” label. Click on it and then on “Open Taskpane”:





# Downloading data from Alpha Vantage

Click on “API Key” and enter your API

The image shows a web interface for Alpha Vantage Market Data. At the top, there's a header with the Alpha Vantage logo and the text "ALPHA VANTAGE". Below the header, there are several navigation links: "Info", "Symbol Search", "Tech Indicator", "Bulk Download", "Documentation", and "API Key". The "API Key" link is highlighted. Below the navigation links, there's a section titled "Update API Key". Under this title, there's a label "Alpha Vantage API Key" followed by a text input field. At the bottom of this section, there's an "Update" button.

“Symbol Search” is useful to find ticker symbols.

“Documentation” provides some instructions on how to use the add-in.

## Downloading data from Alpha Vantage

We download Apple adjusted monthly stock prices as an example. Go on a cell and enter the following:

```
=AlphaVantage.EquityTimeSeries("AAPL","MONTHLY","TRUE","full")
```

The first column of downloaded data contains the date. You will likely need to change the category of the cells in that column to "Date" in order for the dates to show correctly.

Data are downloaded from most recent to oldest. To compute returns you will need to copy and paste the rows in reverse order.

Remember that you only have few downloads per day with the free API.