

GREEN BUBBLES: A FOUR-STAGE PARADIGM FOR DETECTION AND PROPAGATION

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REPOSITORY OVERVIEW

The repository includes the following folders and files:

- › **Economic variables**: contains the dataset on economic and financial indicators¹ covering the period from January 2005 to February 2024;
- › **Google Trends**: contains the dataset on search volume indices² covering the period from January 2005 to February 2024;
- › **Google Trends OD (Original Data)**: contains the raw data as downloaded directly from the Google Trends platform (including all search term details);
- › **Code.html**: an HTML report generated with R Markdown, summarizing all results and providing an accessible overview of the findings;
- › **Code.Rmd**: an R Markdown file with the full reproducibility code. After installing the required packages, all chunks can be run to replicate the results presented in the article;
- › **renv folder, renv.lock, .Rprofile, and RStudio project file**: these files ensure reproducibility of the computational environment. The **renv** folder and lockfile record the exact package versions used, while the **.Rprofile** and project file configure the R environment so that results can be reliably replicated across different systems.

All data were processed using R version 4.4.1 with the necessary packages installed on a Windows laptop equipped with 16 GB of RAM. To ensure full reproducibility, please use the same R version. On average, the complete code requires about 15 minutes to run. Please install the appropriate version of **R**, followed by **Rtools**, and then **RStudio**. After that, open the **Code.rmd** file, run the first code chunk to install the required packages, and then proceed with the following chunks to view the results. Alternatively, you may:

1. Open the RStudio project file.
2. Install the **renv** package.
3. Run **renv::status()** to check for any inconsistencies with the current environment.
4. If needed, run **renv::restore()** to align with the project environment.

Once everything is set up, open the **Code.rmd** file and execute all code chunks.

¹Available at daily or monthly frequency.

²Available at monthly frequency, without individual search term details.