Bayesian Econometrics Lab 3

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The BEAR Toolbox

- The BEAR toolbox is a package of MATLAB codes.
- The toolbox is regularly updated.
- It is an excellent resource for doing applied econometric projects.
- The underlying code is fully accessible and can be adapted once you are comfortable with programming.

Using BEAR for the Empirical Project

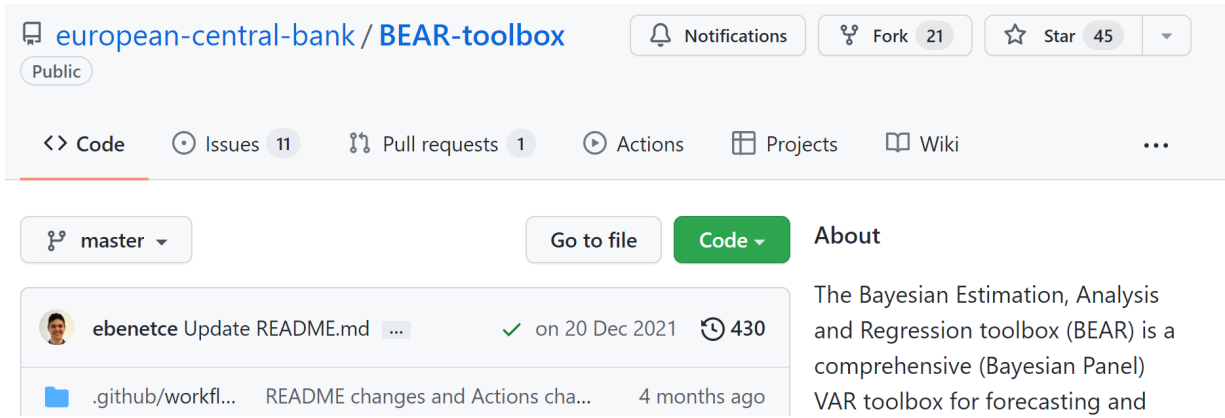
It is important to note that:

- If you use BEAR you will not need to modify any code.
- But if the toolbox includes priors you are familiar with (e.g. the Minnesota prior), **the notation and interpretation of hyperparameters may be slightly different** from what you have learnt in class.
- The toolbox may also include priors you are unfamiliar with.
- You can read the BEAR toolbox technical guide in order to learn more about the priors and hyperparameters in BEAR.

BEAR Toolbox Demonstration

Download BEAR toolbox:

- From MATLAB or MATLAB Online
  To install the toolbox directly from MATLAB, please go to HOME – Add Ons, search for BEAR and install the toolbox. Alternatively, follow the steps below to install it from GitHub.
- From GitHub
  It can be found on Gary's website and requires MATLAB.



BEAR: Getting started

- Creating a settings object:

  To create a settings object you can use the function

  ```
  >> s = BEARsettings(<VARtype>, 'ExcelFile','data.xlsx')
  ```

  This will return a settings object with different properties depending on the selected VARtype.

- Running BEAR from the command line:

  To run BEAR, please use:

  ```
  >> BEARmain(s)
  ```

  where `s` is a BEAR settings object created with the `BEARsettings` function.

BEAR: Getting started

- Running BEAR interactively:

  From MATLAB run the command below to open the main BEAR interface.

```
>> BEARapp
```

BEAR: Examples

- If you want to see an example on how to run BEAR, you can run any of the following files directly:

```
s = bear_settings_BVAR
s = bear_settings_PANEL
s = bear_settings_SV
s = bear_settings_TVP
s = bear_settings_MF
```

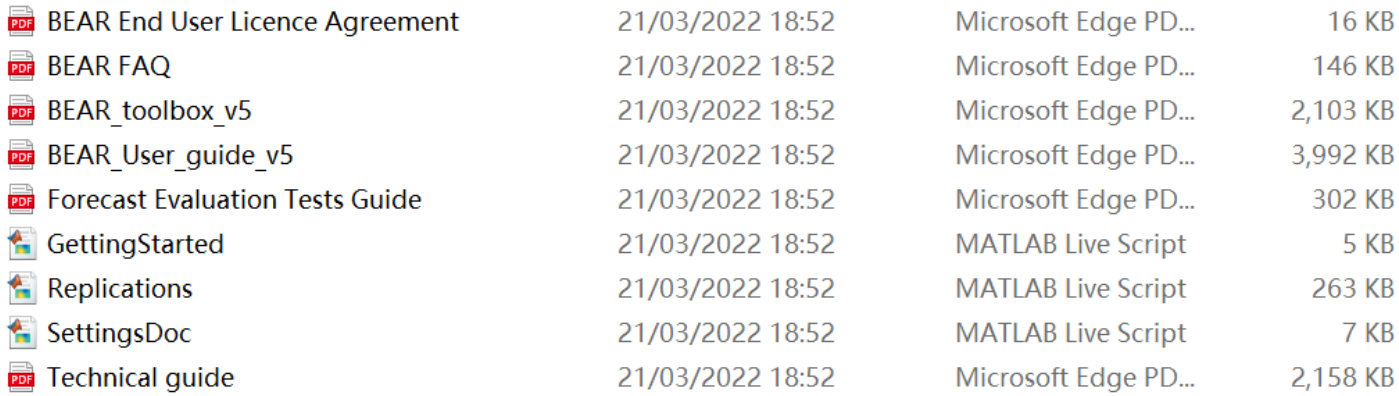
change your inputs accordingly and then run `BEARmain(s)`.

- If you wanted to build your own settings files, you use any of these as a template running for example:

```
copyfile(fullfile(bearroot(), 'examples', 'bear_settings_BVAR.m'), pwd)
edit('bear_settings_BVAR')
```

BEAR: Doc

- For a full BEAR documentation: the file you download – tbx – doc



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