

“Using Disasters to Estimate the Impact of Uncertainty”  
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## CODE PACKET

### IV directory

#### Contents

- Empirical Tables.do: a do file which produces the panel IV regressions tables (Tables 1-6) in the paper (STATA)
- \*.dta: various relevant data files used by Empirical Tables.do (STATA)

#### Software & System Requirements, Approximate Runtime

- STATA, ~ 1 GB of Memory
- Runtime of approximately one minute when executed on STATA MP/15.1 on 2017 iMac Pro with 2.3 GHz 18-Core Intel Xeon W and 128 GB of memory

#### Instructions To Run

- In STATA, run "Panel IV Code.do" to reproduce all tables in the text

### IV\_VAR directory

#### Contents

- STEP1\_ESTIMATION.m: a MATLAB file that performs estimation of the baseline IV-VAR and various robustness checks
- STEP2\_GRAPHS.m: a MATLAB file that generates Figures 6 – 7 in the paper
- VARdata.csv: the baseline IV-VAR sample in csv form
- Subdirectories contain MATLAB files called by STEP1\_ESTIMATION.m and STEP2\_GRAPHS.m.

#### Software & System Requirements, Approximate Runtime

- MATLAB, ~ 1.5 GB of memory
- Runtime of approximately one minute when executed on MATLAB R2020a on 2017 iMac Pro with 2.3 GHz 18-Core Intel Xeon W and 128 GB of memory

#### Instructions To Run

- In MATLAB, run "STEP1\_ESTIMATION.M" then "STEP2\_GRAPHS.M" to reproduce Figures 6 – 7 in the paper

### LMN\_VAR directory

#### Contents

- STEP1\_STATA\_ESTIMATION.do: a STATA file that estimates the baseline disaster events VAR coefficients and various robustness checks
- STEP2\_MATLAB\_ESTIMATION.m: a MATLAB file that computes admissible response sets for the baseline disaster events VAR and various robustness checks
- STEP3\_GRAPHS.m: a MATLAB file that generates figures including Figures 3-5 in the paper
- Dates\_and\_Data.dta: the disaster events VAR STATA data called by STEP1\_STATA\_ESTIMATION.do.

- Subdirectories contain MATLAB and STATA files called by STEP1\_STATA\_ESTIMATION.do, STEP2\_MATLAB\_ESTIMATION.m, and STEP3\_GRAPHPS.m.

#### Software & System Requirements, Approximate Runtime

- STATA, MATLAB, ~ 2 GB of memory
- STATA runtime of approximately 15 seconds, followed by MATLAB runtime of approximately 151 minutes when executed on STATA MP/15.1 and MATLAB R2020a on 2017 iMac Pro with 2.3 GHz 18-Core Intel Xeon W and 128 GB of memory

#### Instructions To Run

- In STATA, run “STEP1\_STATA\_ESTIMATION.do” then in MATLAB run “STEP2\_MATLAB\_ESTIMATION.m” followed by “STEP3\_GRAPHPS.m” to reproduce Figures 3-5 from the paper

### **MODEL directory (supplemental information for results outside published paper)**

#### Contents

- VOL\_GROWTH\_wrapper.f90: the main model code which structurally estimates the parameters of the disaster mappings in the online appendix of the paper (Fortran)
- base\_lib.f90: a library of utility functions called by VOL\_GROWTH\_wrapper.f90 (Fortran)
- FIRST\_STAGE.m: a MATLAB file called by VOL\_GROWTH\_wrapper.f90 which does some processing of simulated model data
- compile\_script.sh: a compilation script for the code using the gfortran compiler (shell script)

#### Software & System Requirements

- Fortran 90 compiler, MATLAB, ~ 20 GB memory
- Fortran + MATLAB runtime varies tremendously by system architecture and environment settings, can take many hours to execute

#### Instructions To Run

- In a UNIX shell with GCC installed, run the script “compile\_script.sh” to compile the Fortran 90 source code and execute the program, modifying the variable “matlabstr” in VOL\_GROWTH\_wrapper.f90 to reflect your system’s MATLAB command line name.