

## Here are general instructions for running the codes included in the zip file in order to identify news shocks:

1. The data has to have the news shocks variable in the second column (i.e., RPI). Add as a last column of random numbers, i.e., via `data(:,10)=randn(length(data),1)`.
2. `bootstrap_ISTC_news.m` is the main file and calls all other functions. In it, put `LE=1`, `rest=0`, `bayes=0`. This will result in estimating a VAR in levels. Put `a=1` and `b=2` to maximize FEV share for first variable with contemporaneous restriction on the response of the first variable; alternatively, put `a=2` and `b=3` to maximize FEV share for the second variable with two contemporaneous restrictions on the responses of the two variables.
3. To run the estimation, write the following line (after importing your data set):

```
[~,q,usa,~,~,q_istc,q_tfp]=bootstrap_ISTC_news(data,1,5,60,60,1,4,1,1).
```

Here is what is relevant: 5=number of lags +1;the third element represents the truncation horizon in the MFEV optimization problem (i.e., the news shock maximally explains the variation in TFP over a five year horizon);the 20 after that is the number of horizons for irfs are computed (make sure it's never smaller than the truncation horizon).

4. OUPUT: `q` is the irf of the news shock; `usa.vd` is the contribution of the news shock to the fev of the variables; `usa.rr` is the news shock series.

5. BOOTSTRAPING: to get the bootstrapped confidence intervals run `[qu,q,usa,~,~,q_istc,q_tfp]=bootstrap_ISTC_news(data,2000,5,40,40,1,4,1,1)`. Then, to get the Hall confidence intervals used in the paper use: `up=a-(qu(:,1)-a)`; `low=a-(qu(:,2)-a)`.

`up` will give you the irf upper percentiles, `low` is the lower percentile of responses, and `quan=0.01` (i.e., 99% ci) determines the confidence level.

## Instructions for replicating the main results of Ben Zeev and Khan (2015):

Run the code named `NEW_BENCHMARK_ALL_VARIABLES_diagrams_second_chap_VAR` after putting all matlab files included in the zip file in a single folder, including the mat file named `FINAL_NADAV_HASHMAT_BENCHMARK_DATA` which contains the data (note that we've also put the corresponding excel data file in the zip file). This produces Figure 1 of the paper as well as estimated irfs, fevs, and news shock series of the IST news shock in output variables `a`, `a1`, and `a2.rr`, respectively. Note that the corresponding irfs and fevs for the unanticipated TFP and IST shocks are also produced and are given by `b`, `a2.weight_tfp`, `c`, and `a2.weight_istc`, respectively.