

# Bootstrapping Stata estimators with Make

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Problem

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- You have a complex estimator in a long Stata .do file.
- You cannot derive the standard errors analytically.

# The Stata solution

- `bs: regress outcome variables`
- But this only works for small estimation procedures, not if you have many data manipulation steps in between.
- Cannot be parallelized and may take a long time to run.

## The Make solution

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## Every estimator

data  $\rightarrow$  estimator  $\rightarrow$  statistic

## Every Make recipe

prerequisites  $\rightarrow$  recipe  $\rightarrow$  target

# The Make solution

- If `data`, `estimator` and `statistic` are in separate files, we can exploit the power of `Make`.
- `estimator` can be however complex, as long as it reads `data` and write `statistic`.
- The bootstrap repetitions can be run in parallel.

# Cookie cutter bootstrap

GitHub repo