

The CSVV file describes the shape of the interpolation/adaptation surface and all coefficients to generate a projection outcome. All projections require a CSVV file.

Format Specification

The CSVV contains the following sections, in order:

1. A [metacsv](#) header with the following entries:
 - Oonline: a short description of the particular assumptions embodied.
E.g., oneline: Violent crime without precip. controls
 - Version: a canonical version code, to be included in the result files.
E.g., version: CONFLICT-VIOLENT-NOPRECIP.20160831
 - Dependencies: The versions or filenames of all inputs to the script that produced this CSVV.
E.g., dependencies: interpersonal_violent_master.csv
 - Description: Any information is fine, but at a minimum include the name of the script which produced this CSVV.
E.g., description: Generated by violent_crime.do;
contains stage 2 fit using the SUR method.
 - CSVV-version: For the current version of CSVVs, specify here "girdin-2017-01-10".
E.g., csvv-version: girdin-2017-01-10
 - Variables: A line entry for each predictor variable, covariate, and the outcome, including units. Use cross-sector agreed-upon, canonical variable names whenever possible (see canonical variables list below).
E.g., variables:

```
tas: Daily average temperature [C]
climtas: Yearly average temperature [C]
loggdppc: GDP per capita [log USD2000]
logpopop: pop-wtd pop density [log
ppl/km^2]
outcome: Violent crimes [crime/ppl]
```
2. The number of observations used in the estimation, as
observations
[number of observations]
3. The names of predictor variables, with an entry for each value in gamma. Typically the same predictor variable will be repeated multiple times here.
prednames
[predictor for gamma 1],[predictor for gamma 2], ...
4. The names of interacted covariate variables, with an entry for each value in gamma. Include the dummy covariate '1' for the uninteracted terms.
covarnames
[covariate for gamma 1],[covariate for gamma 2], ...

5. The gamma coefficients, with as many entries as the `prednames` and `covarnames` rows above (described as `#gamma` below). The format is
`gamma`
`[#gamma comma-delimited values]`
6. The covariance matrix for the gamma coefficients, as `#gamma` rows of `#gamma` values. The format is
`gammavcv`
`[#gamma comma-delimited values]`
`[#gamma comma-delimited values]`
`...`
7. The covariance matrix of the residuals. The format is
`residvcv`
`[K comma-delimited values]`
`[K comma-delimited values]`
`...`

For a single-stage regression, include here the variance of the residuals (a single number). In Stata, this can be calculated as $N * (RMSE^2) / (N - P)$, where N is the number of observations and P is the number of parameters (betas, gammas, fixed effects, and controls).

Canonical Variables:

Below is a live list of canonical variable names to be used in the files

- 1: No interaction (does not need to be included in metacsv variables list)
- `tas`, `tasmax`, `tasmin`: in °C (C)
- `prm`: total precipitation in meters (m/year)
- `climtas`, `logpopop`, `loggdppc`: as normal
- `DayNumber-[lower]-[upper]`: binned `tas`, with values like `bintas-3-8` and `bintas--inf--17`

An example CSVV file is shown below:

```
---
online: Violent crime without precip. controls
version: CONFLICT-VIOLENT-NOPRECIP.20160831
dependencies: interpersonal_violent_master.csv
description: Generated by violent_crime.do; contains stage 2 fit
using the SUR method.
csvv-version: girdin-2017-01-10
variables:
  tas: Daily average temperature [C]
  climtas: Yearly average temperature [C]
  loggdppc: GDP per capita [log USD2000]
```

logpopop: pop-wtd pop density [log ppl/km^2]
outcome: Violent crimes [crime/ppl]

...

observations

165

prednames

tas,tas,tas,tas

covarnames

1,climtas,logpopop,loggdppc

gamma

0.0164696356700432,-8.89709735801015e-07,-0.000554879778433052,0.0010
2394972370296

gammavcv

1.80965714848814e-05,-4.39752230027157e-10,-1.21862004397995e-07,-7.2
0860670243013e-07

-4.25361425336379e-07,-1.88744484825226e-12,-6.19352064853970e-09,8.0
019153062177e-09

-4.39752230027157e-10,1.32244166740551e-13,1.94402052328441e-11,2.188
18588530398e-11

-1.21862004397995e-07,1.94402052328441e-11,1.57650913027939e-07,-1.30
200787315058e-07

-7.20860670243013e-07,2.18818588530398e-11,-1.30200787315058e-07,1.95
283739693075e-07

residvcv

13.4623149763139