

spmatrix export — Export weighting matrix to text file

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Description

`spmatrix export` saves one weighting matrix in a text file that you can use for sending to other researchers.

Stata users can import text files created by `spmatrix export`; see [\[SP\] spmatrix import](#).

Quick start

Create file `wmat.txt` containing weighting matrix `Wme`

```
spmatrix export Wme using wmat.txt
```

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Syntax

```
spmatrix export spmatname using filename [, replace]
```

spmatname is the name of a weighting matrix stored in memory.

filename is the name of a file with or without the default `.txt` suffix.

Option

`replace` specifies that *filename* may be overwritten if it already exists.

Remarks and examples

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Remarks are presented under the following headings:

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Using `spmatrix export`

`spmatrix export` creates files containing spatial weighting matrices that you can send to other users who are not using Stata. If you want to send to Stata users, it is easier and better if you send Stata `.stswm` files created using `spmatrix save`. `spmatrix export` produces a text-based format that is easy for non-Stata users to read.

To send a contiguity matrix, for instance, you could type

```
. spmatrix create contiguity Wc
. spmatrix export Wc using contig.txt
(matrix Wc saved in file contig.txt)
```

You could then email the file `contig.txt`.

The `spmatrix export` text-file format

An `spmatrix export` file contains values of the matrix and the `_ID` values to which the matrix's rows and columns correspond.

A small sample file is shown below. It corresponds to a 4×4 weighting matrix for U.S. counties 3137, 960, 298, and 707. If others are to be able to interpret this information, the counties need to be a standard code. We are using the standard FIPS code because, before creating spatial weighting matrices in [SP] [intro 4](#), we used `spset`, `modify id(fips)`.

To create the file listed below, we typed

```
. spmatrix create idistance Idist
. spmatrix export Idist using small.txt
(matrix Idist saved in file small.txt)
```

We did this after keeping four observations so that we would have a small file to show you.

The resulting file is

```
. type small.txt
4
20029 0 .225898983673981 .259698923068494 .746562405514367
33003 .225898983673981 0 .123515701241913 .187089086384635
41021 .259698923068494 .123515701241913 0 .264715523882705
48227 .746562405514367 .187089086384635 .264715523882705 0
```

The file records a 4×4 spatial weighting matrix. Real examples would record much larger matrices. $N \times N$ matrices are recorded in $N + 1$ lines.

The first line states that $N = 4$. The matrix is 4×4 .

The second and subsequent lines each record $N + 1$ values with spaces between them. The first value, 20029, is the `_ID` (FIPS) value corresponding to the first row of the weighting matrix. The remaining N values on the line are the first row of the matrix.

The remaining lines are repeats for the second row, third row, and so on. The first value is an `_ID` value and the rest are that `_ID`'s row of the matrix.

It is a simple and easy-to-read file.

Also see

[SP] [spmatrix](#) — Categorical guide to the spmatrix command

[SP] [spmatrix import](#) — Import weighting matrix from text file

[SP] [intro](#) — Introduction to spatial data and SAR models