Title

> **spmatrix export** — Export weighting matrix to text file

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

Menu

Statistics > Spatial autoregressive models

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

Remarks are presented under the following headings:

> *Using spmatrix export*
> *The spmatrix export text-file format*

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