Description

st_matrix(*name*) returns the contents of Stata's matrix *name*, or it returns J(0,0,.) if the matrix does not exist.

st_matrixrowstripe(*name*) returns the row stripe associated with the matrix *name*, or it returns J(0,2,"") if the matrix does not exist.

st_matrixcolstripe(*name*) returns the column stripe associated with the matrix *name*, or it returns J(0,2,"") if the matrix does not exist.

 $st_matrix(name, X)$ sets or resets the contents of the Stata matrix *name* to be X. If the matrix did not previously exist, a new matrix is created. If the matrix did exist, the new contents replace the old. Either way, the row and column stripes are also reset to contain "r1", "r2", ..., and "c1", "c2",

st_matrix(*name*, X) deletes the Stata matrix *name* when X is 0×0 : st_matrix(*name*, J(0,0,.)) deletes Stata matrix *name* or does nothing if *name* does not exist.

st_matrixrowstripe(*name*, *s*) and st_matrixcolstripe(*name*, *s*) change the contents to be *s* of the row and column stripe associated with the already existing Stata matrix *name*. In either case, *s* must be $n \times 2$, where n = the number of rows (columns) of the underlying matrix.

st_matrixrowstripe(*name*, *s*) and st_matrixcolstripe(*name*, *s*) reset the row and column stripe to be "r1", "r2", ..., and "c1", "c2", ..., when *s* is 0×2 (that is, J(0,2,"")).

 $st_replacematrix(name, X)$ resets the contents of the Stata matrix *name* to be X. The existing Stata matrix must have the same number of rows and columns as X. The row stripes and column stripes remain unchanged.

st_matrix(*name*, X, *hcat*) and st_matrix_hcat(*name*) are used to set and query the *hcat* corresponding to a Stata e() or r() matrix. They are also rarely used. See [R] Stored results and [P] return for more information.

Syntax

| real matrix | <pre>st_matrix(string scalar name)</pre> |
|---------------|---|
| string matrix | <pre>st_matrixrowstripe(string scalar name)</pre> |
| string matrix | <pre>st_matrixcolstripe(string scalar name)</pre> |
| | |
| void | <pre>st_matrix(string scalar name, real matrix X)</pre> |
| void | <pre>st_matrix(string scalar name, real matrix X, string scalar hcat)</pre> |
| void | <pre>st_matrixrowstripe(string scalar name, string matrix s)</pre> |
| void | <pre>st_matrixcolstripe(string scalar name, string matrix s)</pre> |
| | |
| void | <pre>st_replacematrix(string scalar name, real matrix X)</pre> |
| | |
| string scalar | <pre>st_matrix_hcat(name)</pre> |

where

- 1. All functions allow name to be
 - a. global matrix name such as "mymatrix",
 - b. r() matrix such as "r(Z)", or
 - c. e() matrix such as "e(V)".
- 2. st_matrix(*name*) returns the contents of the specified Stata matrix. It returns J(0,0,.) if the matrix does not exist.
- 3. st_matrix(*name*, X) sets or resets the contents of the specified Stata matrix. Row and column stripes are set to the default r1, r2, ..., and c1, c2,
- 4. st_replacematrix(*name*, X) is an alternative way to replace existing Stata matrices. The number of rows and columns of X must match the Stata matrix being replaced, and in return, the row and column stripes are not replaced.
- 5. st_matrix(*name*, X) deletes the specified Stata matrix if *value*==J(0,0,.) (if value is 0 × 0).
- 6. Neither st_matrix() nor st_replacematrix() can be used to set, replace, or delete special Stata e() matrices e(b), e(V), or e(Cns). Only Stata commands ereturn post and ereturn repost can be used to set these special matrices; see [P] ereturn. Also see [M-5] stata() for executing Stata commands from Mata.
- 7. st_matrix(name, X, hcat) sets or resets the specified Stata matrix and sets the hidden or historical status when setting a Stata e() or r() matrix. Allowed hcat values are "visible", "hidden", "historical", and a string scalar release number such as "10", "10.1", or any string release number matching "#[#][.[#[#]]]". See [P] return for a description of hidden and historical stored results.
- 8. st_matrix_hcat(name) returns the hcat associated with a Stata e() or r() matrix.

9. st_matrixrowstripe() and st_matrixcolstripe() allow querying and resetting the row and column stripes of existing or previously created Stata matrices.

Remarks and examples

Processing Stata's row and column stripes

Both row stripes and column stripes are presented in the same way: each row of s represents the eq:op.name associated with a row or column of the underlying matrix. The first column records eq, and the second column records op.name. For instance, given the following Stata matrix

| | | | eq2: | eq2: |
|-----------|------|------|------|------|
| | | L. | | L. |
| | turn | turn | turn | turn |
| mpg | 1 | 2 | 3 | 4 |
| L.mpg | 5 | 6 | 7 | 8 |
| eq2:mpg | 9 | 10 | 11 | 12 |
| eq2:L.mpg | 13 | 14 | 15 | 16 |

st_matrixrowstripe(*name*) returns the 4 × 2 string matrix

| | "mpg" |
|-------|---------|
| | "L.mpg" |
| "eq2" | "mpg" |
| "eq2" | "L.mpg" |

and st_matrixcolstripe(name) returns

| | "turn" |
|------|----------|
| | "L.turn" |
| eq2" | "turn" |
| eq2" | "L.turn" |

Conformability

"

```
st_matrix(name):
         name:
                     1 \times 1
         result:
                     m \times n (0 × 0 if not found)
st_matrixrowstripe(name):
                    1 \times 1
         name:
                     m \times 2 (0 × 2 if not found)
         result:
st_matrixcolstripe(name):
                    1 \times 1
         name:
                     n \times 2 (0 × 2 if not found)
         result:
st_matrix(name, X):
                     1 \times 1
         name:
             X:
                     r \times c (0 × 0 means delete)
         result:
                     void
```

```
st_matrix(name, X, hcat):
           name:
                       1 \times 1
              X:
                        r \times c
            hcat:
                        1 \times 1
          result:
                       void
st_matrixrowstripe(name, s):
                       1 \times 1
          name:
                       r \times 2
                                 (0 \times 2 \text{ means default "r1", "r2", ...})
               s:
                       void
          result:
st_matrixcolstripe(name, s):
                        1 \times 1
          name:
               s:
                        c \times 2
                                (0 \times 2 \text{ means default "c1", "c2", ...})
          result:
                       void
st_replacematrix(name, X):
                        1 \times 1
           name:
              X:
                        m \times n (0 × 0 means delete)
          result:
                       void
st_matrix_hcat(name):
                       1 \times 1
          name:
          result:
                        1 \times 1
```

Diagnostics

st_matrix(name), st_matrixrowstripe(name), and st_matrixcolstripe(name) abort with error if name is malformed. Also,

- 1. st_matrix(name) returns J(0,0,.) if Stata matrix name does not exist.
- st_matrixrowstripe(name) and st_matrixcolstripe(name) return J(0,2,"") if Stata matrix name does not exist. There is no possibility that matrix name might exist and not have row and column stripes.

st_matrix(name, X), st_matrixrowstripe(name, s), and st_matrixcolstripe(name, s)
abort with error if name is malformed. Also,

- 1. st_matrixrowstripe(*name*, s) aborts with error if rows(s) is not equal to the number of rows of Stata matrix *name* and rows(s) !=0, or if cols(s) !=2.
- 2. st_matrixcolstripe(*name*, s) aborts with error if cols(s) is not equal to the number of columns of Stata matrix *name* and cols(s) !=0, or if cols(s) !=2.

st_replacematrix(*name*, X) aborts with error if Stata matrix *name* does not have the same number of rows and columns as X. st_replacematrix() also aborts with error if Stata matrix *name* does not exist and X!=J(0,0,.); st_replacematrix() does nothing if the matrix does not exist and X==J(0,0,.). st_replacematrix() aborts with error if *name* is malformed.

st_matrix(*name*, X, *hcat*) aborts with error if *hcat* is not an allowed value.

st_matrix_hcat(name) returns "visible" when name is not a Stata e() or r() matrix and returns
"" when name is an e() or r() value that does not exist.

Also see

- [M-5] st_global() Obtain strings from and put strings into global macros
- $[M-5] st_rclear() Clear r(), e(), or s()$
- [M-4] Stata Stata interface functions

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