mi set — Declare multiple-imputation data

Syntax

mi set style

where style is wide
    mlong
    flong
    flongsep name

mi register {imputed | passive | regular} varlist

mi unregister varlist

mi set M {= | += | -=} #

mi set m -= (numlist)

mi unset [, asis]

Menu

Statistics > Multiple imputation

Description

mi set is used to set a regular Stata dataset to be an mi dataset. mi set is also used to modify the attributes of an already set dataset. An mi set dataset has the following attributes:

- The data are recorded in a style: wide, mlong, flong, or flongsep; see [MI] styles.
- Variables are registered as imputed, passive, or regular, or they are left unregistered.
- In addition to \( M = 0 \), the data with missing values, the data include \( M \geq 0 \) imputations of the imputed variables.

mi set style begins the setting process by setting the desired style. mi set style sets all variables as unregistered and sets \( M = 0 \).

mi register registers variables as imputed, passive, or regular. Variables can be registered one at a time or in groups and can be registered and reregistered.

mi unregister unregisters registered variables, which is useful if you make a mistake. Exercise caution. Unregistering an imputed or passive variable can cause loss of the filled-in missing values in \( m > 0 \) if your data are recorded in the wide or mlong styles. In such cases, just mi register the variable correctly without mi unregistering it first.
mi set M modifies $M$, the total number of imputations. $M$ may be increased or decreased. $M$
may be set before or after imputed variables are registered.

mi set m drops selected imputations from the data.

mi unset is a rarely used command to unset the data. Better alternatives include mi extract and
mi export (see [MI] mi extract and [MI] mi export, respectively).

Remarks and examples

Data must be mi set before they can be used with the other mi commands. There are two ways
data can become mi set: direct use of mi set style or use of mi import (see [MI] mi import).

The mi register, mi set M, and mi set m commands are for use with already set data and are
useful even with imported data.

Remarks are presented under the following headings:

- mi set style
- mi register and mi unregister
- mi set M and mi set m
- mi unset

mi set style

mi set style begins the setting process. mi set style has the following forms:

- mi set wide
- mi set mlong
- mi set flong
- mi set flongsep name

It does not matter which style you choose because you can always use mi convert (see [MI] mi
convert) to change the style later. We typically choose wide to begin.

If your data are large, you may have to use flongsep. mi set flongsep requires you to specify
a name for the flongsep dataset collection. See Advice for using flongsep in [MI] styles.

If you intend to have super-varying variables, you need to choose either flong or flongsep, or
you will need to mi convert to flong or flongsep style later.

The current style of the data is shown by the mi query and mi describe commands; see [MI] mi
describe.

mi register and mi unregister

mi register has three forms:

- mi register imputed varlist
- mi register passive varlist
- mi register regular varlist

See [MI] Glossary for a definition of imputed, passive, and regular variables.

You are required to register imputed variables. If you intend to use mi impute (see [MI] mi
impute) to impute missing values, you must still register the variables first.
Concerning passive variables, we recommend that you register them, and if your data are style wide, you are required to register them. If you create passive variables by using \texttt{mi passive} (see [MI] \texttt{mi passive}), that command automatically registers them for you.

Whether you register regular variables is up to you. Registering them is safer in all styles except wide, where it does not matter. We say registering is safer because regular variables should not vary across \texttt{m}, and in the long styles, you can unintentionally create variables that vary. If variables are registered, \texttt{mi} will detect and fix mistakes for you.

Super-varying variables—see [MI] Glossary—rarely occur, but if you have them, be aware that they can be stored only in flong and flongsep data and that they never should be registered.

The registration status of variables is listed by \texttt{mi describe} (see [MI] \texttt{mi describe}).

Use \texttt{mi unregister} if you accidentally register a variable incorrectly, with one exception: if you mistakenly register a variable as \texttt{imputed} but intended to register it as \texttt{passive}, or vice versa, use \texttt{mi register} directly to reregister the variable. The mere act of unregistering a passive or imputed variable can cause values in \texttt{m > 0} to be replaced with those from \texttt{m = 0} if the data are wide or mlong.

That exception aside, you first \texttt{mi unregister} variables before reregistering them.

\textbf{mi set \texttt{M} and \texttt{m}}

\texttt{mi set M} is seldom used, and \texttt{mi set m} is sometimes used.

\texttt{mi set M} sets \texttt{M}, the total number of imputations. The syntax is

\begin{verbatim}
mi set M  = #
mi set M += #
mi set M -= #
\end{verbatim}

\texttt{mi set M = #} sets \texttt{M = #}. Imputations are added or deleted as necessary. If imputations are added, the new imputations obtain their values of imputed and passive variables from \texttt{m = 0}, which means that the missing values are not yet replaced in the new imputations. It is not necessary to increase \texttt{M} if you intend to use \texttt{mi impute} to impute values; see [MI] \texttt{mi impute}.

\begin{verbatim}
mi set M += # increments M by #.
mi set M -= # decrements M by #.
\end{verbatim}

\texttt{mi set m -= (numlist)} deletes the specified imputations. For instance, if you had \texttt{M = 5} imputations and wanted to delete imputation 2, leaving you with \texttt{M = 4}, you would type \texttt{mi set m -= (2)}.

\textbf{mi unset}

If you wish to unset your data, your best choices are \texttt{mi extract} and \texttt{mi export}; see [MI] \texttt{mi extract} and [MI] \texttt{mi export}. The \texttt{mi extract 0} command replaces the data in memory with the data from \texttt{m = 0}, unset. The \texttt{mi export} command replaces the data in memory with unset data in a form that can be sent to a non–Stata user.

\texttt{mi unset} is included for completeness, and if it has any use at all, it would be by programmers.
Also see

[MI] intro — Introduction to mi
[MI] mi convert — Change style of mi data
[MI] mi describe — Describe mi data
[MI] mi export — Export mi data
[MI] mi extract — Extract original or imputed data from mi data
[MI] mi import — Import data into mi
[MI] mi XXXset — Declare mi data to be svy, st, ts, xt, etc.
[MI] styles — Dataset styles