

mi describe — Describe mi data

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Description

`mi query` reports whether the data in memory are mi data and, if they are, reports the style in which they are set.

`mi describe` provides a more detailed report on mi data.

Menu

Statistics > Multiple imputation

Syntax

`mi query`

`mi describe [, describe_options]`

describe_options

Description

detail

show missing-value counts for $m = 1, m = 2, \dots$

noupdate

see [\[MI\] noupdate option](#)

`collect` is allowed with `mi query` and `mi describe`; see [\[U\] 11.1.10 Prefix commands](#).

Options

`detail` reports the number of missing values in $m = 1, m = 2, \dots, m = M$ in the imputed and passive variables, along with the number of missing values in $m = 0$.

`noupdate` in some cases suppresses the automatic `mi update` this command might perform; see [\[MI\] noupdate option](#).

Remarks and examples

stata.com

Remarks are presented under the following headings:

mi query

mi describe

mi query

mi query without mi data in memory reports

```
. mi query
(data not mi set)
```

With mi data in memory, you see something like

```
. mi query
data mi set wide, M = 15
last mi update 20jan2019 15:30:20, approximately 5 minutes ago
```

mi query does not burden you with unnecessary information. It mentions when mi update was last run because you should run it periodically; see [\[MI\] mi update](#).

mi describe

mi describe more fully describes mi data:

```
. mi describe
Style: mlong
      last mi update 22dec2020 15:30:20, approximately 2 minutes ago
Observations:
  Complete           90
  Incomplete         10  (M = 20 imputations)
-----
  Total              100
Variables:
  Imputed: 2; smokes(10) age(5)
  Passive: 1; agesq(5)
  Regular: 0
  System: 3; _mi_m _mi_id _mi_miss
  (there are 3 unregistered variables; gender race chd)
```

mi describe lists the style of the data, the number of complete and incomplete observations, M (the number of imputations), the registered variables, and the number of missing values in $m = 0$ of the imputed and passive variables. In the output, the lines

```
Variables:
  Imputed: 2; smokes(10) age(5)
```

means that the smokes variable contains 10 missing values in $m = 0$ and that age contains 5. Those values are [soft missings](#) and thus eligible to be imputed. If one of smokes' missing values in $m = 0$ were hard, the lines would read

```
Variables:
  Imputed: 2; smokes(9+1) age(5)
```

mi describe reports information about $m = 0$. To obtain information about all m 's, use mi describe, detail:

```
. mi describe, detail
Style: mlong
      last mi update 22dec2020 15:30:20, approximately 3 minutes ago
Observations:
  Complete          90
  Incomplete        10 (M = 20 imputations)
-----
  Total             100
Variables:
Imputed: 2; smokes(10; 20*0) age(5; 20*0)
Passive: 1; agesq(5; 20*0)
Regular: 0
System: 3; _mi_m _mi_id _mi_miss
      (there are 3 unregistered variables; gender race chd)
```

In this example, all imputed values are nonmissing. We can see that from

```
Variables:
  Imputed: 2; smokes(10; 20*0) age(5; 20*0)
```

Note the 20*0 after the semicolons. That is the number of missing values in $m = 1$, $m = 2$, ..., $m = 20$. In the smokes variable, there are 10 missing values in $m = 0$, then 0 in $m = 1$, then 0 in $m = 2$, and so on. If $m = 17$ had two missing imputed values, the lines would read

```
Variables:
  Imputed: 2; smokes(10; 16*0, 2, 3*0) age(5; 20*0)
```

16*0, 2, 3*0 means that for $m = 1$, $m = 2$, ..., $m = 20$, the first 16 have 0 missing values, the next has 2, and the last 3 have 0.

If smokes had 9 + 1 missing values rather than 10—that is, 9 soft missing values plus 1 hard missing rather than all 10 being soft missing—and all 9 soft missings were filled in, the line would read

```
Variables:
  Imputed: 2; smokes(9+1; 20*0) age(5; 20*0)
```

The 20 imputations are shown as having no soft missing values. It goes without saying that they have 1 hard missing. Think of 20*0 as meaning 20*(0+1).

If smokes had 9 + 1 missing values and two of the soft missings in $m = 18$ were still missing, the line would read

```
Variables:
  Imputed: 2; smokes(9+1; 16*0, 2, 3*0) age(5; 20*0)
```

Stored results

`mi query` stores the following in `r()`:

Scalars

<code>r(update)</code>	seconds since last <code>mi update</code>
<code>r(m)</code>	m if <code>r(style)=="flongsep"</code>
<code>r(M)</code>	M if <code>r(style)!="flongsep"</code>

Macros

<code>r(style)</code>	<i>style</i>
<code>r(name)</code>	<i>name</i> if <code>r(style)=="flongsep"</code>

Note that `mi query` issues a return code of 0 even if the data are not `mi`. In that case, `r(style)` is “”.

`mi describe` stores the following in `r()`:

Scalars

<code>r(update)</code>	seconds since last <code>mi update</code>
<code>r(N)</code>	number of observations in $m=0$
<code>r(N_incomplete)</code>	number of incomplete observations in $m=0$
<code>r(N_complete)</code>	number of complete observations in $m=0$
<code>r(M)</code>	M

Macros

<code>r(style)</code>	<i>style</i>
<code>r(ivars)</code>	names of imputed variables
<code>r(_0_miss_ivars)</code>	<code>#=.</code> in each <code>r(ivars)</code> in $m=0$
<code>r(_0_hard_ivars)</code>	<code>#>.</code> in each <code>r(ivars)</code> in $m=0$
<code>r(pvars)</code>	names of passive variables
<code>r(_0_miss_pvars)</code>	<code>#≥.</code> in each <code>r(pvars)</code> in $m=0$
<code>r(rvars)</code>	names of regular variables

If the `detail` option is specified, for each m , $m = 1, 2, \dots, M$, also stored are

Macros

<code>r(_m_miss_ivars)</code>	<code>#=.</code> in each <code>r(ivars)</code> in m
<code>r(_m_miss_pvars)</code>	<code>#≥.</code> in each <code>r(pvars)</code> in m

Also see

[MI] **Intro** — Introduction to `mi`