set clevel — Set default credible level

Description

set clevel specifies the default credible level for credible intervals for all Bayesian commands (see [BAYES] Bayesian commands) that report credible intervals. The initial value is 95, meaning 95% credible intervals.

Syntax

```
set clevel # [ , permanently ]
```

# is any number between 10.00 and 99.99 and may be specified with at most two digits after the decimal point.

Option

permanently specifies that in addition to making the change right now, the clevel setting be remembered and become the default setting when you invoke Stata.

Remarks and examples

To change the level of credible intervals reported by a particular command, you need not reset the default credible level. All commands that report credible intervals have a clevel(#) option. When you do not specify the option, the credible intervals are calculated for the default level set by set clevel or for 95% if you have not reset set clevel.
Example 1

We use the `bayesmh` command to obtain the credible interval for the mean of `mpg`:

```
. use https://www.stata-press.com/data/r16/auto
(1978 Automobile Data)
. set seed 14
. bayesmh mpg, likelihood(normal(30)) prior({mpg:_cons}, flat)
```

Burn-in ... Simulation ...

Model summary

Likelihood:
```
mpg ~ normal({mpg:_cons},30)
```

Prior:
```
{mpg:_cons} ~ 1 (flat)
```

Bayesian normal regression
Random-walk Metropolis-Hastings sampling

<table>
<thead>
<tr>
<th></th>
<th>MCMC iterations = 12,500</th>
</tr>
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<tbody>
<tr>
<td>Burn-in</td>
<td>2,500</td>
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<tr>
<td>MCMC sample size</td>
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<td>Efficiency</td>
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Log marginal-likelihood = -234.09275

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<tr>
<th>mpg</th>
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<th>Std. Dev.</th>
<th>MCSE</th>
<th>Median</th>
<th>95% Cred. Interval</th>
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<tr>
<td>_cons</td>
<td>21.30364</td>
<td>.6429995</td>
<td>.013186</td>
<td>21.30381</td>
<td>20.24172, 22.35158</td>
</tr>
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To obtain 90% credible intervals, we would type

```
. bayesmh, clevel(90)
```

Model summary

Likelihood:
```
mpg ~ normal({mpg:_cons},30)
```

Prior:
```
{mpg:_cons} ~ 1 (flat)
```

Bayesian normal regression
Random-walk Metropolis-Hastings sampling

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or we could type

```
set clevel 90
.bayesmh
```

Model summary

Likelihood:

```
mpg ~ normal({mpg:_cons},30)
```

Prior:

```
{mpg:_cons} ~ 1 (flat)
```

Bayesian normal regression  
Random-walk Metropolis-Hastings sampling

<p>| | | |</p>
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<th>[90% Cred. Int.]</th>
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If we opt for the second alternative, the next time that we fit a model, 90% credible intervals will be reported. If we wanted 95% credible intervals, we could specify `clevel(95)` on the estimation command, or we could reset the default by typing `set clevel 95`.

The current setting of `clevel()` is stored as the c-class value `c(clevel)`; see `[P] creturn`.

Also see

```
[BAYES] bayes — Bayesian regression models using the bayes prefix
[BAYES] bayesmh — Bayesian models using Metropolis–Hastings algorithm
[BAYES] Bayesian estimation — Bayesian estimation commands
[R] query — Display system parameters
[P] creturn — Return c-class values
```