Title

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GUI (ciwidth) — Graphical user interface for precision and sample-size analysis

Description Menu Remarks and examples Also see

Description

This entry describes the graphical user interface (GUI) for the `ciwidth` command. See [PSS-3] **ciwidth** for a general introduction to the `ciwidth` command.

Menu

Statistics > Power, precision, and sample size

Remarks and examples

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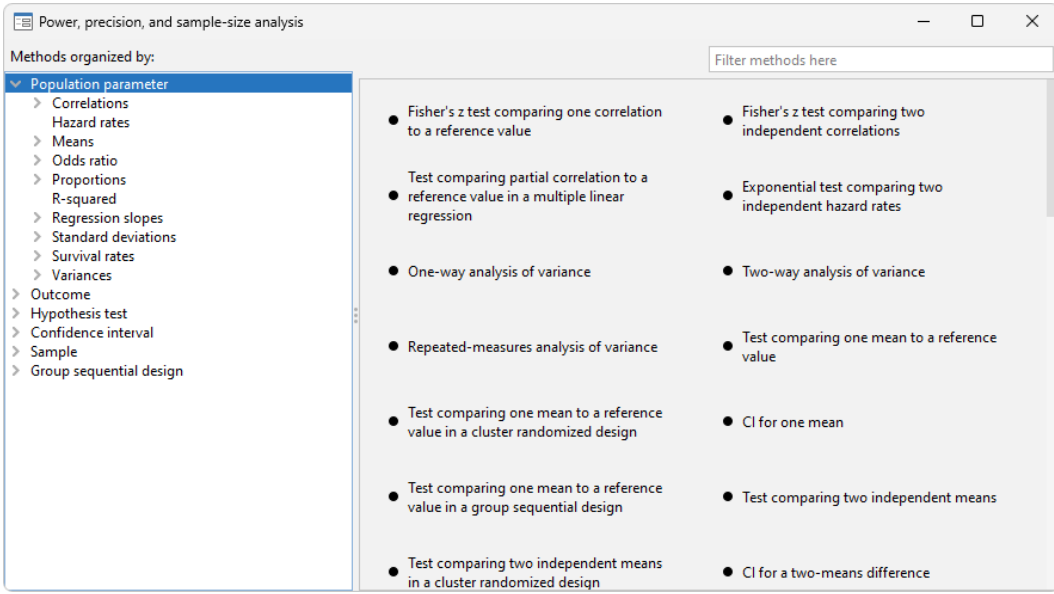
Remarks are presented under the following headings:

PSS Control Panel
Example using PSS Control Panel

PSS Control Panel

You can perform PrSS analysis interactively by typing the `ciwidth` command or by using a point-and-click GUI available via the PSS Control Panel.

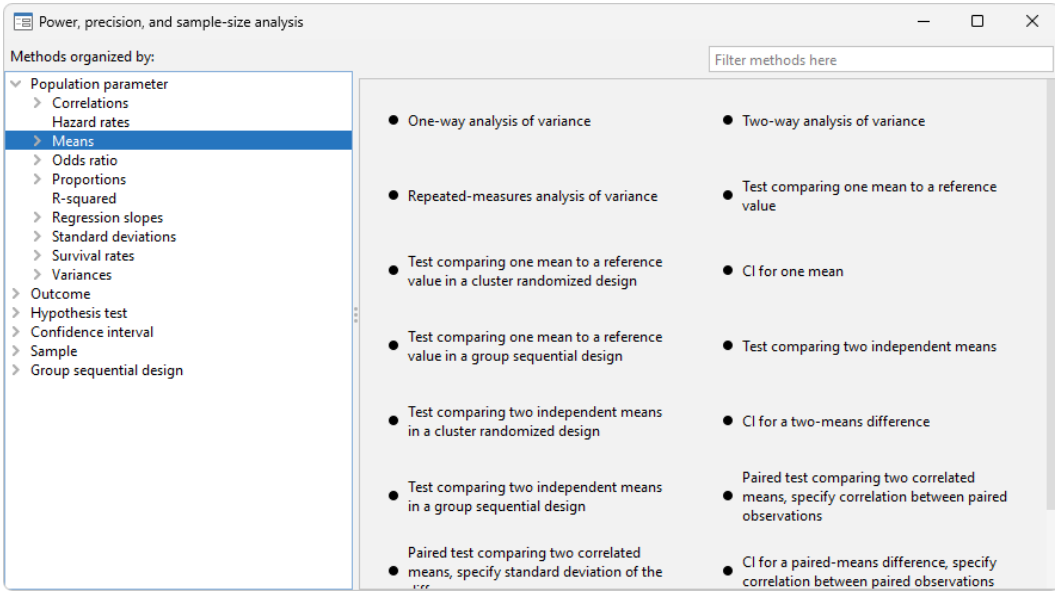
The PSS Control Panel can be accessed by selecting **Statistics > Power, precision, and sample size** from the Stata menu. It includes a tree-view organization of the PSS, PrSS, and group sequential design methods.



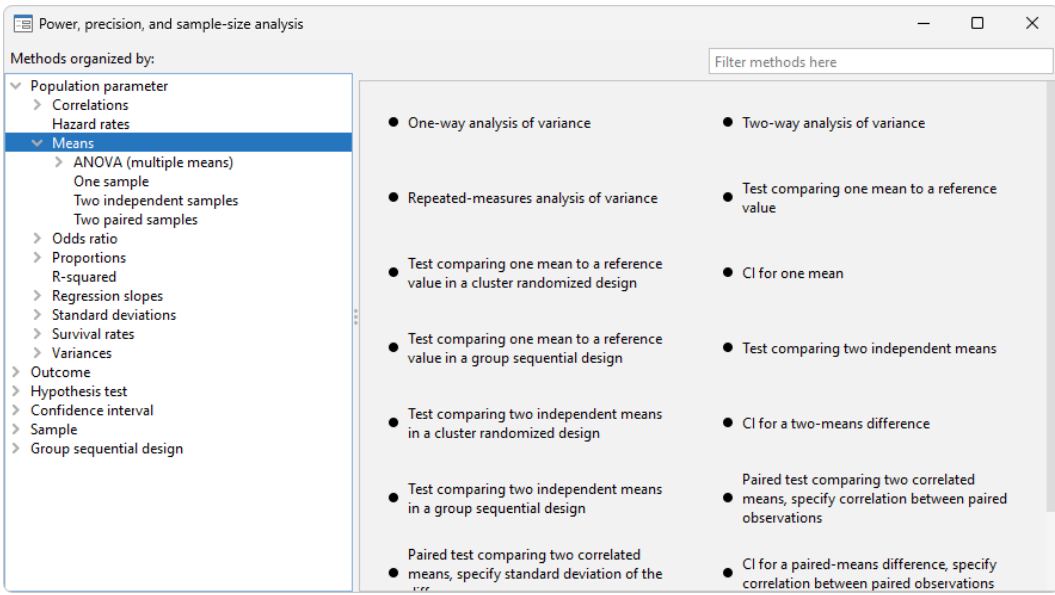
The left pane organizes the methods, and the right pane displays the methods corresponding to the selection in the left pane. On the left, the methods are organized by the type of population parameter, such as mean or proportion; the type of outcome, such as continuous or binary; the type of analysis, such as hypothesis test or confidence interval; and the type of sample, such as one sample or two samples. You click on one of the methods shown in the right pane to launch the dialog box for that method.

By default, methods are organized by **Population parameter**. We can find the method we want to use by looking for it in the right pane, or we can narrow down the type of method we are looking for by selecting one of the expanded categories in the left pane.

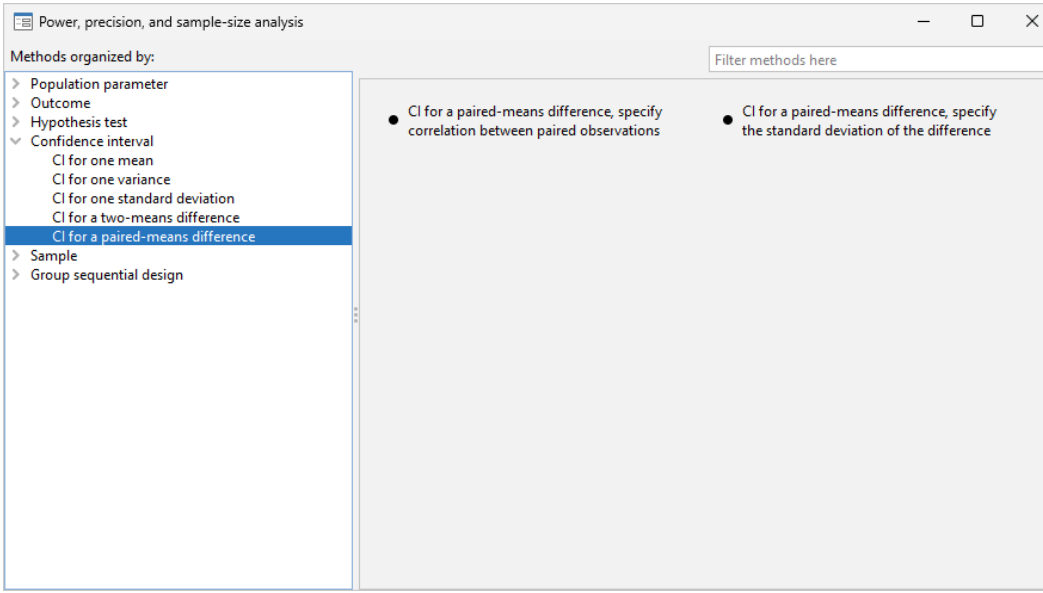
For example, if we are interested in means, we can click on **Means** within **Population parameter** to see all methods for means in the right pane.



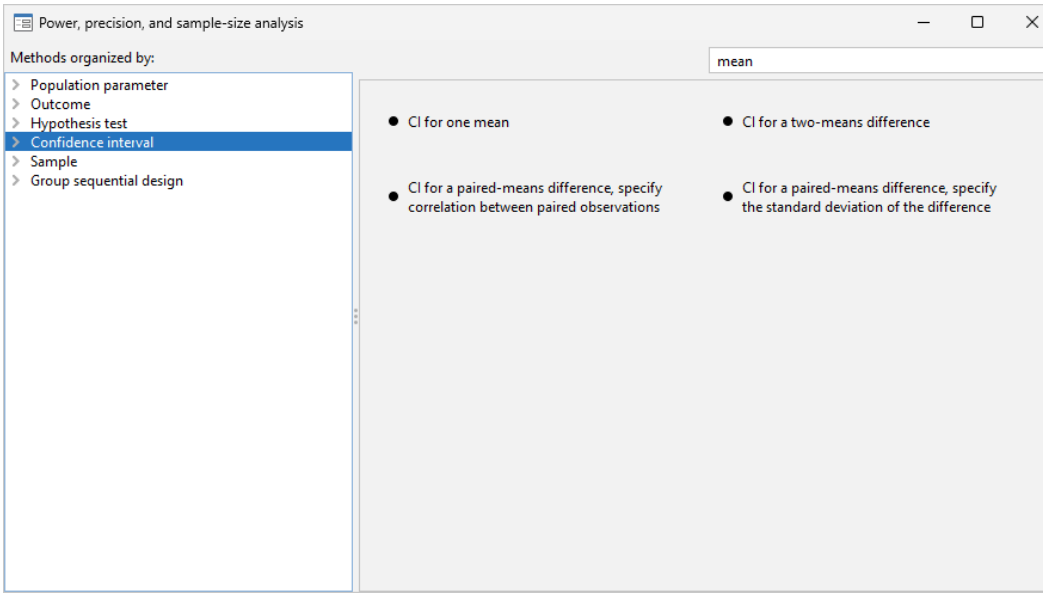
We can expand **Means** to further narrow down the choices by clicking on the symbol to the left of **Means**.



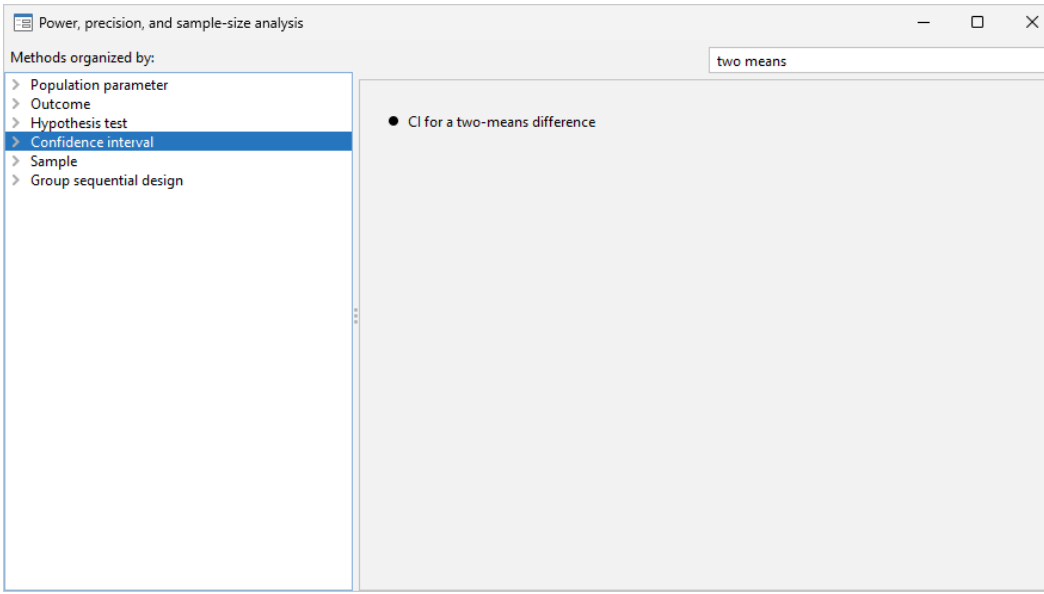
Or we can choose a method by the type of analysis by expanding **Confidence interval** and selecting, for example, **CI for a paired-means difference**:



We can also locate methods by searching the titles of methods. You specify the search string of interest in the *Filter* box at the top right of the PSS Control Panel. For example, if we type "mean" in the *Filter* box while keeping the focus on **Confidence interval**, only CI methods with a title containing "mean" will be listed in the right pane.



We can specify multiple words in the *Filter* box, and only methods with all the specified words in their titles will appear. For example, if we type "two means", only methods with the words "two" and "means" in their titles will be shown:

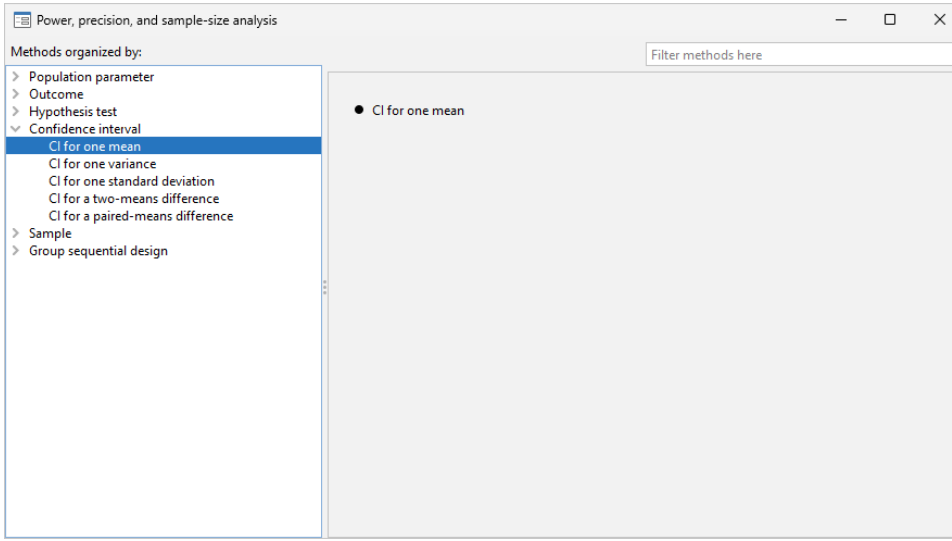


The search is performed within the group of methods selected by the choice in the left pane. In the above example, the search was done within **Confidence interval**. When you search all methods, whether you select **Population parameter**, **Outcome**, or **Sample** in the left pane, the same set of methods appears in the right pane but in the order determined by the selected category.

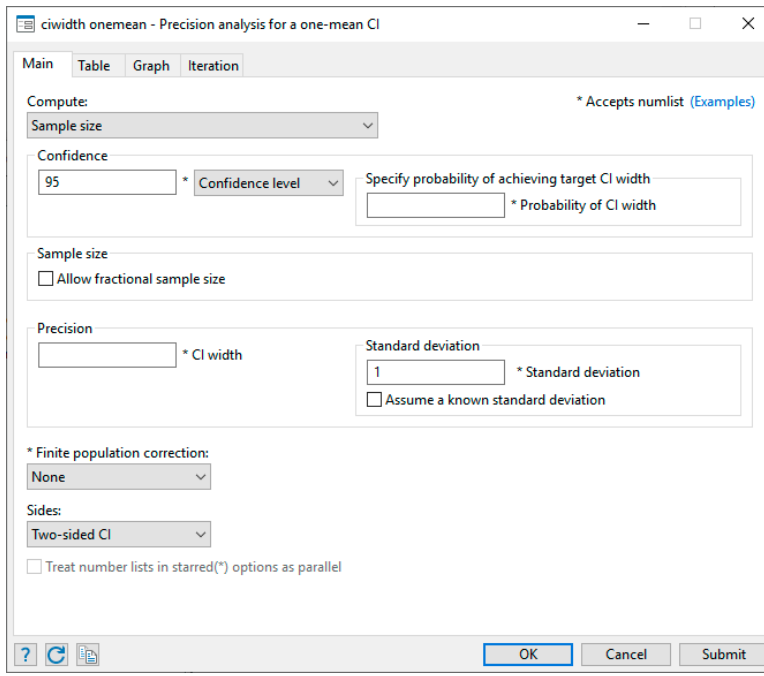
Example using PSS Control Panel

In *An example of PrSS analysis in Stata* of [PSS-3] **Intro (ciwidth)**, we performed PrSS analysis interactively by typing commands. We replicate the analysis by using the PSS Control Panel and dialog boxes.

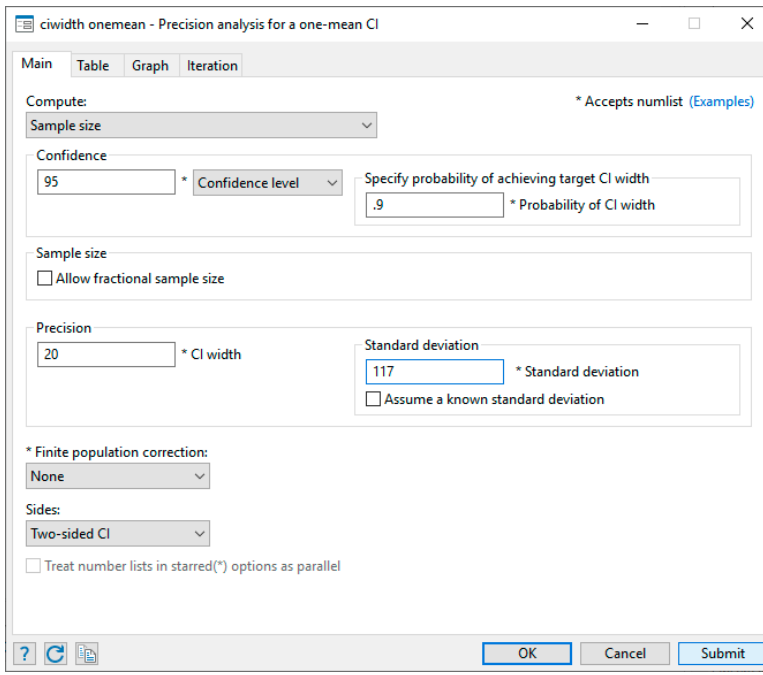
We first launch the PSS Control Panel from the **Statistics** > **Power, precision, and sample size** menu. We then narrow down to the desired dialog box by first choosing **Confidence interval** in the left pane and then choosing **CI for one mean**. In the right pane, we see the corresponding CI method.



We invoke the dialog box by clicking on the corresponding method title in the right pane. The following appears:



Following the example from *An example of PrSS analysis in Stata* in [PSS-3] **Intro (ciwidth)**, we now compute sample size. The first step is to choose which parameter to compute. The *Compute* drop-down box specifies `Sample size`, so we leave it unchanged. The next step is to specify the confidence level. The default confidence level is already set to our desired value of 95%, so we leave it unchanged. We fill the *Probability of CI width* box with the value 0.9 and the *CI width* box with the value 20. We then specify a standard deviation of 117. We leave everything else unchanged and click on the **Submit** button to obtain results.

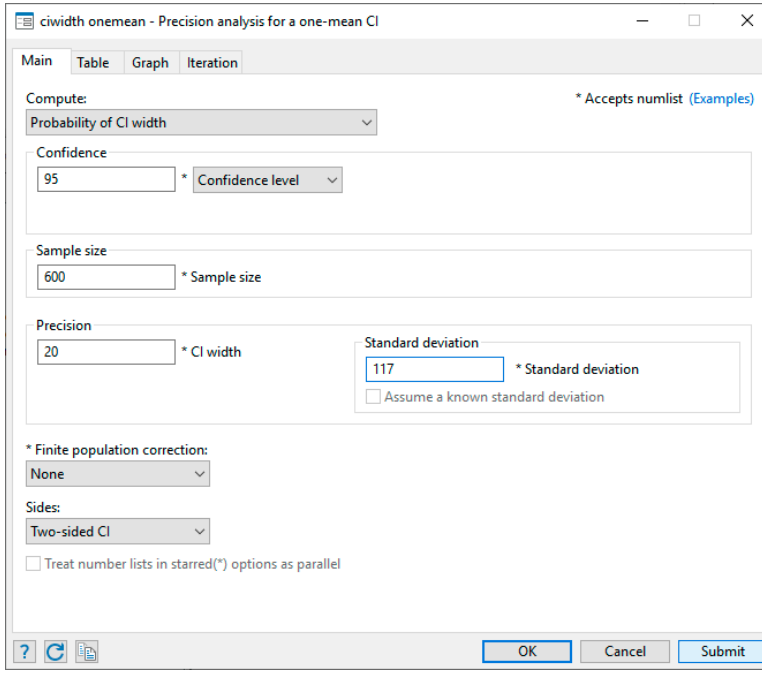


The following command is displayed in the Results window and executed:

```
. ciwidth onemean, probwidth(.9) width(20) sd(117)

Performing iteration ...

Estimated sample size for a one-mean CI
Student's t two-sided CI

Study parameters:

        level =     95.00
     Pr_width =    0.9000
        width =   20.0000
           sd =  117.0000

Estimated sample size:

            N =       569
```

We can verify that the command and results are exactly the same as what we specified in *An example of PrSS analysis in Stata* of [PSS-3] **Intro (ciwidth)**.

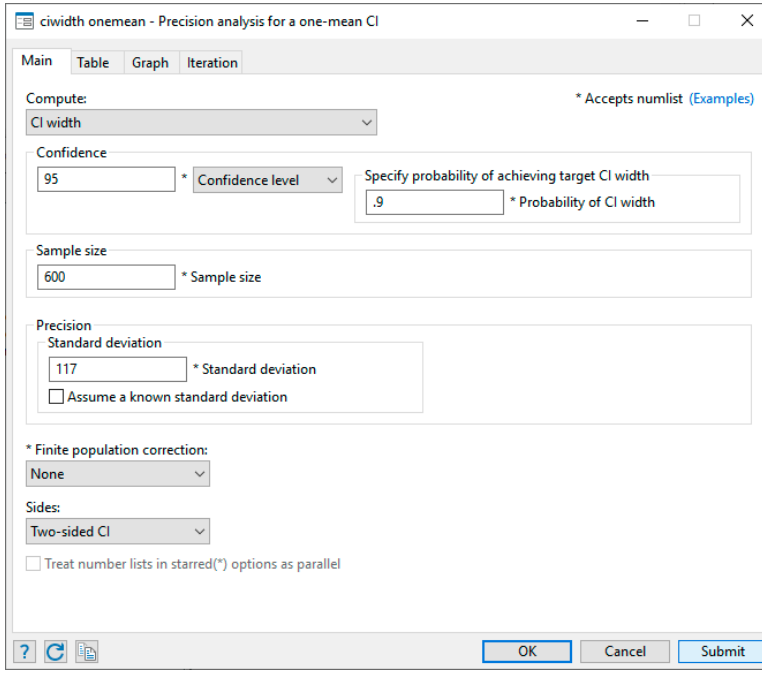
Continuing our PrSS analysis, we can enroll 600 subjects and would like to estimate the corresponding probability of CI width given the same CI width. We return to the dialog box and select `Probability of CI width` under *Compute*. To compute the probability of CI width, we need to specify the sample size of 600 and leave the other specifications unchanged.



The following command is issued after we click on the **Submit** button:

```
. ciwidth onemean, n(600) width(20) sd(117)

Estimated probability of width for a one-mean CI
Student's t two-sided CI

Study parameters:

        level =     95.00
            N =       600
        width =   20.0000
           sd =  117.0000

Estimated probability of width:

     Pr_width =    0.9887
```

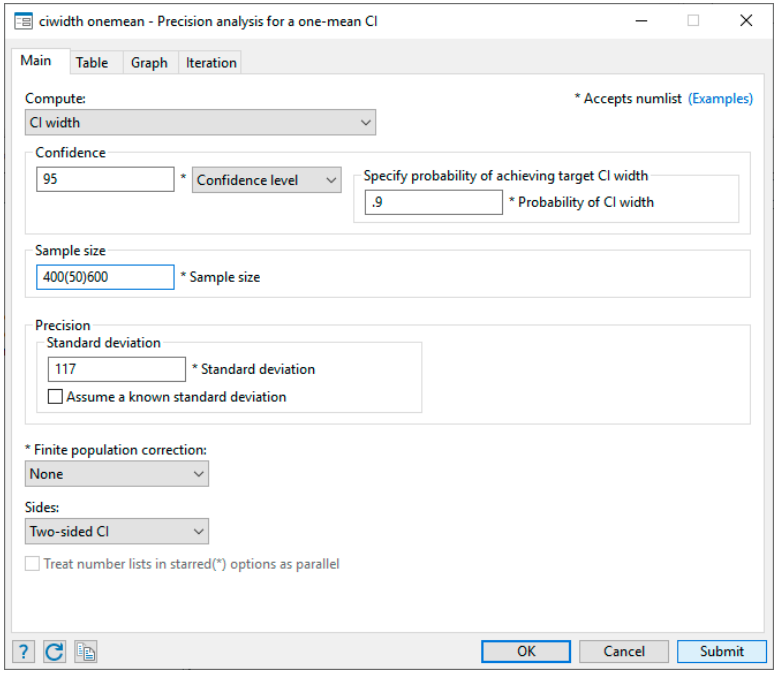
Instead of the probability of CI width, we can also compute the CI width given the same sample size of 600 and the earlier probability of CI width of 0.9. We return to our dialog box and simply select `CI width` under **Compute**.



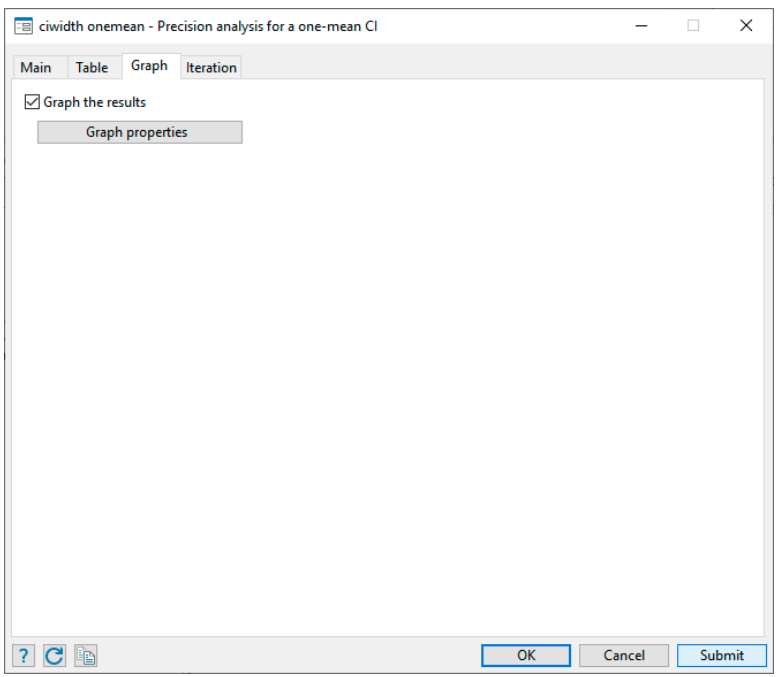
The following command is issued after we click on the **Submit** button:

```
. ciwidth onemean, probwidth(.9) n(600) sd(117)
Estimated width for a one-mean CI
Student's t two-sided CI
Study parameters:
        level =     95.00
            N =       600
     Pr_width =    0.9000
           sd =  117.0000
Estimated width:
        width =   19.4499
```

To produce the graph from *An example of PrSS analysis in Stata*, we first select `CI width` under *Compute*. Then we specify the *numlist* for sample size in the respective box:

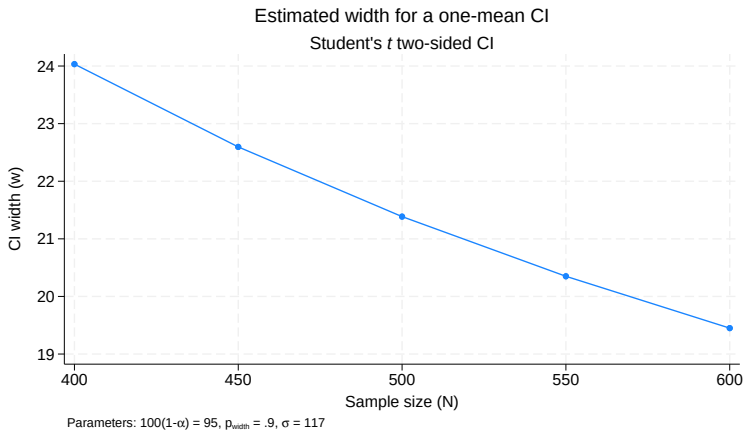


Then we select the **Graph** tab and check the *Graph the results* box:



We click on the **Submit** button and obtain the following command and graph:

```
. ciwidth onemean, probwidth(.9) n(400(50)600) sd(117) graph
```



Also see

[PSS-3] **ciwidth** — Precision and sample-size analysis for CIs

[PSS-3] **Intro (ciwidth)** — Introduction to precision and sample-size analysis for confidence intervals

[PSS-5] **Glossary**

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