

Chapter 25

PROC PARETO Statement

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Chapter 25

PROC PARETO Statement

Overview

The PROC PARETO statement starts the PARETO procedure, and it optionally identifies various data sets and requests line printer charts.

To create a Pareto chart, you specify a chart statement (VBAR or HBAR) after the PROC PARETO statement. The chart statement specifies the type of Pareto chart you want to create and the variables in the input data set that you want to analyze. A VBAR statement produces a chart with vertical bars; an HBAR statement produces a chart with horizontal bars. For example, the following statements request a horizontal Pareto chart with blue bars on a green background:

```
proc pareto data=failures;
  hbar reason1 / cbars = blue
                cframe = green;
run;
```

The DATA= option specifies the input data set (FAILURES) containing the variable (REASON1) to be analyzed.

A Pareto chart has three axes:

- the *category axis*
- the *frequency axis* and
- the *cumulative percent axis*.

On a vertical bar chart the category axis is displayed horizontally at the bottom of the chart. The frequency axis (also called the *primary vertical axis*) is on the left. The cumulative percent axis (or *secondary vertical axis*) is displayed on the right.

On a horizontal bar chart the category axis is displayed vertically on the left side of the chart. The frequency axis (*primary horizontal axis*) is displayed at the top of the chart. The cumulative percent axis (*secondary horizontal axis*) is at the bottom.

Syntax

The syntax for the PARETO procedure is as follows:

```
PROC PARETO < options >;
  VBAR (variable-list) < / options >;
  HBAR (variable-list) < / options >;
  INSET (keyword-list) < / options >;
  < BY variables ; >
```

You must specify the PROC PARETO statement and at least one VBAR or HBAR statement (also referred to as chart statements). All other statements, such as INSET, TITLE and BY statements, are optional. If you specify two or more *variables* in a chart statement, they must be enclosed in parentheses. You can use multiple chart statements with one PROC PARETO statement. An INSET statement must immediately follow a chart statement. It produces an inset displaying information on the chart created by the chart statement it follows. For details on the VBAR, HBAR or INSET statement, read the chapter on that statement.

Summary of Options

The following table lists the PROC PARETO statement options.

For complete descriptions, see “Dictionary of Options” on page 795.

Table 25.1. PROC PARETO Statement Options

ANNOTATE=SAS-data-set	specifies annotate data set for frequency axis
ANNOTATE2=SAS-data-set	specifies annotate data set for cumulative percent axis
DATA=SAS-data-set	specifies input data set
FORMCHAR='string'	specifies form character list to enhance line printer charts
GOUT=graphics catalog	specifies graphics catalog for saving graphics output
LINEPRINTER	creates charts for a line printer device

Dictionary of Options

You can specify the following options in the PROC PARETO statement. The marginal notes, *Graphics* and *Line Printer*, identify options that apply only to graphics devices and line printers, respectively.

ANNOTATE=SAS-data-set

ANNO=SAS-data-set

specifies an input data set that contains annotate variables as described in *SAS/GRAPH Software: Reference*. You can use this data set to customize charts with features such as labels explaining critical categories. The ANNOTATE= data set is associated with the frequency axis. If the annotation is based on data coordinates, you must use the same units as the frequency axis. Features provided in this data set are added to every chart produced in the current run of the procedure.

Graphics

ANNOTATE2=SAS-data-set

ANNO2=SAS-data-set

specifies an input data set that contains annotate variables as described in *SAS/GRAPH Software: Reference*. You can use this data set to customize charts with features such as labels explaining critical categories. The ANNOTATE2= data set is associated with the cumulative percent axis. If the annotation is based on data coordinates, you must use the same units as the cumulative percent axis. Features provided in this data set are added to every chart produced in the current run of the procedure.

Graphics

DATA=SAS-data-set

specifies an input data set that contains the *process variables* and related variables. If you do not specify a DATA= data set, the procedure uses the most recently created data set.

FORMCHAR='string'

specifies a form character list that enhances the appearance of line printer charts with corner characters and other special characters.

Line Printer

If your device supports the ASCII symbol set (1 or 2), use the following list:

```
formchar = 'B3,C4,DA,C2,BF,C3,C5,B4,C0,C1,D9'X
```

The FORMCHAR= option overrides (but does not alter) the FORMCHAR= option that is specified with an OPTIONS statement such as

```
options formchar = 'B3,C4,DA,C2,BF,C3,C5,B4,C0,C1,D9'X ;
```

You can place the OPTIONS statement at the top of your SAS program or in an AUTOEXEC.SAS file.

GOUT=graphics-catalog

specifies the graphics catalog in which to save graphics output.

Graphics

LINEPRINTER

requests that line printer charts be produced. By default, the procedure creates charts for a graphics device. The HBAR statement does not produce line printer output, so you cannot use an HBAR statement when the LINEPRINTER option is specified.

Line Printer

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