Tools of the Trade:

BAR CHARTS

Charts or graphs are used for two major purposes: first, to emphasize the main numerical facts, and second, to reveal important facts, comparisons, and relationships which might be overlooked or not quickly ascertained in text and tables. They add variety and forcefulness to a statistical report, and help to produce interest in the facts and figures in the text and tables.

Charts and graphs should show a limited amount of data to be effective. When individual charts/graphs try to tell too much, they become too complicated to read and understand. Clarity is the secret of their success. Keep them as simple as possible-and still get the facts across.

One important step in charting/graphing is selecting the proper chart or graph for the specific point or message. In order to make a suitable choice, you should know what types of charts/graphs are available to choose from and what each can or cannot do. You should not restrict yourself to one or two favorite kinds or make them so difficult or obscure that they are hard to understand. After you select the chart/graph, carefully design and construct it so that it is easy to read and understand.

A few types of charts/graphs commonly used in statistical presentation are bar chart, histogram, pie chart, broken line graph, smoothed-line or curve and pictograph.

In this issue, we will discuss the use of bar charts. The bar chart presents data in the form of bars or columns, arranged either horizontally or vertically on a scale of values. Most often there are two scales, one for the group or class and the other for the percentage or number.
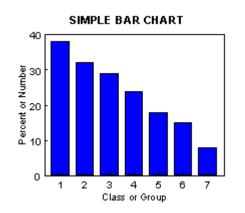
A *simple bar chart* shows how several items differ from each other in a single characteristic. The best arrangements of bars for emphasis and ease of comparison are in order of size, either descending or ascending, although the nature of the data may require some other order. There is no measurement value to the thickness of the bars and, therefore, they should be uniform throughout the chart.

The following are three other types of bar charts commonly used:

- The *group bar chart* allows the comparison of a number of items in two (sometimes three) respects at the same time by means of connected adjacent horizontal bars opposite each stub item.
- The *subdivided bar chart* shows each bar divided into its component parts. Most often the-largest or most important component is put next to the zero line because only the component that starts from zero can be measured directly on the amount scale.
- The *paired bar chart* also compares a number of items in two respects at the same time. Instead of being grouped, the bars are placed opposite each other, one set for one of the comparisons on the right of the item captions and the second set for the other comparison on the left.

Examples of these bar charts follow.

SIMPLE BAR CHART

GROUPED BAR CHART

PAIRED BAR CHART

SUBDIVIDED BAR CHART