# SSG — Part 1 Chart

A question instructors sometimes get, especially from new students, is the "layout", or appearance of the graph of part 1 of the SSG.

Specifically they want to know why the horizontal axis looks "normal," [the vertical lines marking individual years are of equal distance apart], yet the vertical axis is very different.

The horizontal lines we see along this vertical axis are not equal distances apart; in fact, the vertical distances between the numbers representing dollar amounts get smaller and smaller as one goes further and further toward the top! The name of this type graph is a "semi-logarithmic projection."

We will use the graphs on the next two pages to illustrate why the SSG graph is so constructed.

Consider a company with $4 billion of sales in year zero. By year five that amount has doubled to $8 billion. It also has earnings of $200 million in year zero that double to $400 million in year five.
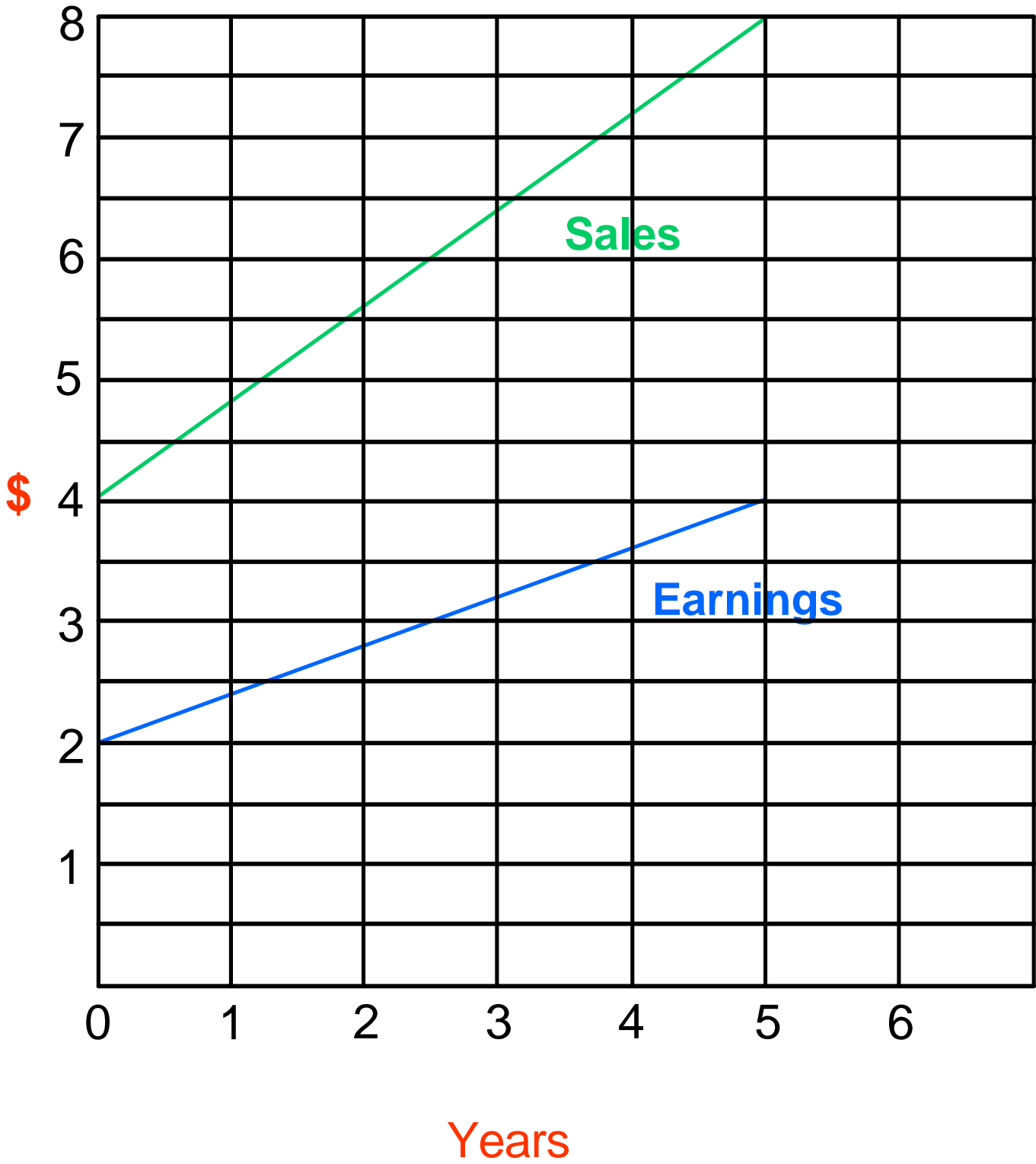
These dollar amounts are shown in the linear chart on page 2. Granted, if one looks at the graph long enough, he or she can *eventually* tell that both amounts double over five years, that in fact, they both have grown at the same rate [100%.].  A chart like this is not much more beneficial to analysis than a tabular listing of the data.

However, a major reason to use a graph is to facilitate _quick _and accurate analysis. This company's figures are also depicted on the semi-log [or ratio] chart on page 3. One can easily see that both sales and earnings have increased at the same rate because the lines are _parallel_.

The efficacy of this type chart goes beyond just looking for parallel  lines. If the sales line is increasing faster [slope is steeper]  than the earnings line, the analyst may want to investigate further. Perhaps proper cost controls are not if effect.

Likewise, if the earnings line is steeper than the sales, smaller earnings may occur in the near future, since earnings come from sales.

Linear

Sales

Earnings

$

Years

# Ratio [or log] Chart

**Sales**

**Earnings**

$

Years