



Better Investing BITS

A Publication for Members of the Computer Group, National Association of Investors Corporation

Volume 14, Number 7

<http://www.better-investing.org>

November 1999

A Visual Screening Workshop for Beginners

by Jay Berry
NAIC WebOp

Editor's Note: The I-Club-List is an NAIC virtual classroom which features a series of workshops and special events. These events are scheduled approximately once a month. For more information on workshop goals, topics and procedures, see the I-Club-List Workshop Details at:

<http://www.better-investing.org/iclub/workshop-description.html>

The following workshop was conducted on the I-Club-List in September. Special thanks to Nancy Barber, Assistant Editor for Education, NAIC Online, for the graphics used in this workshop. NAIC WebOp Jay Berry also deserves special recognition for the time and talent he contributes in helping to educate our members online. Jay joined an investment club in 1960 and has been using the SSG ever since. He has been the leader of three previous I-Club-List workshops, all available on the website:

- Implied Growth Rate Tutorial, Nov. 1996
- Ratio Analysis Workshop, Jan./Feb. 1998
- Nautica Enterprises, Inc., Nov. 1998

This workshop is primarily directed to investors who are relatively new to the NAIC investment philosophy. Have you experienced the frustration of spending considerable time and

effort to complete an NAIC Stock Selection Guide (SSG), or even a Stock Check List (SCL), and then found that the company really isn't suitable for an SSG analysis? If so, then this workshop is for you.

Do You Want Information About the SSG?

An informative description of the SSG may be viewed by pointing your browser to: <http://www.better-investing.org/educate/ssg.html>.

Do You Want Information About the Stock Check List?

The SCL is an NAIC form that helps to train beginning investors before they attempt the SSG. A free SCL software program may be downloaded by pointing your browser to:

<http://www.investware.com/scl.shtml>.

Beginning investors are often

Continued on next page

A Look Inside This Issue

Cover Story 1

Jay Berry leads beginners through a visual screening workshop.

The Long Boom 8

It's a book for the new millennium, says Phil Keating. Here's what Amazon.com has to say.

Working With NAIC Software 9

Here is a year-end report on NAIC Software from Jerry Ditri, as well as special holiday greetings from NAIC and the software developers.

What to Worry About After Y2K!..... 10

Bruce Wagner discusses computer security, or the lack of it, when going online or using cable modems.

NAIC Growth Screen..... 11

Eighty-nine companies, including 15 new ones, made the latest screen.

Five-Year Index of BITS' Articles..... 15

Major articles published in BITS from 1995 through 1999.

Regional Notices... 18



A Visual Screening Workshop for Beginners . . . continued

tempted to do SSGs on companies that are in the news or that they are familiar with, even though those companies may not be "good" growth companies. They need a simple, easy way to screen out unsuitable companies. The approach demonstrated in this workshop will be called Visual Screening.

Visual Screening is not a new approach. It is second nature for many experienced NAIC investors. They may not even realize that they are using it.

All that is required is to look at five to 10 years of historical earnings per share (EPS) and historical sales data. That's it. How simple can you get?!

The challenge for beginning investors is to learn how to quickly interpret the historical sales and EPS data. Briefly, sales and EPS are defined as:

Sales (also called revenue) - The amount collected for all goods and services sold.

EPS (earnings per share, earn-

ings) - A company's profits from doing business after all expenses and taxes are paid. Profits are the company's reason for being in business

Beginning investors should limit themselves to studying companies that have demonstrated the ability to consistently and steadily increase sales and EPS. The examples in this workshop show what to look for, both good and bad.

The historical EPS and sales data are available from

Internet websites, so obtaining the data to perform a Visual Screen is easy and fast.

A Review of NAIC Principles

In order to see where Visual Screening fits into the scheme of things, we will quickly review the NAIC investment principles.

The four basic principles set out in NAIC's *Official Guide: Starting and Running a Successful Investment Club* are:

1. Invest regularly
2. Reinvest income
3. Invest in growth companies
4. Diversify

Visual Screening helps to quickly determine if a company passes or fails tests for a high quality growth company. High quality management is required to produce high quality growth companies. The information used to evaluate the quality of management is contained in SSG Sections 1 and 2.

During April 1999, Cy Lynch presented an excellent I-Club-List workshop on NAIC Portfolio Theory. The complete text of the workshop is available on the website. Point your browser to:

<http://www.better-investing.org/iclub/workshop.html>

Scroll down to: "Miscellaneous" and click on: "Portfolio Theory Workshop April 1999." Also, click on the "View the Workshop Illustrations" icon to see tables and graphs used during the workshop.

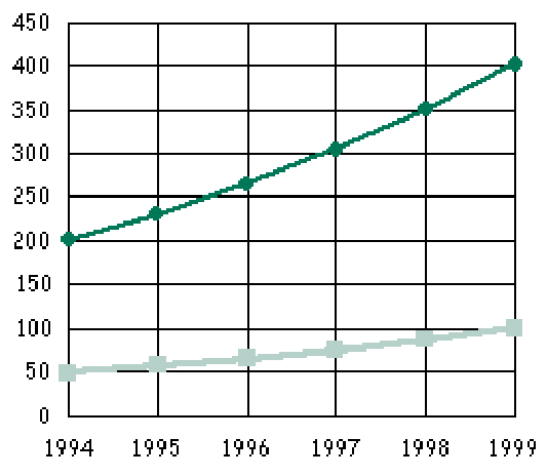
The workshop listed three tests that are used to identify good management:

"Initially, we test management in three ways.

1. Look for relatively steady

Linear vs. Log Scale Graphs — A Comparison

Linear Scale Graph



Beginning investors often question why the SSG graph complicates things by using a strange logarithmic vertical scale. Why not keep things simple by using a conventional linear scale that has evenly spaced lines?

The quick answer is that the SSG graph is intended to let us quickly visualize the rate at which sales and earnings of a company have been growing. Trying to do that with a linear scale graph would require some complicated calculations. A logarithmic scale makes the visualization process very simple.

Instead of getting into the math behind this, let's look at two examples.

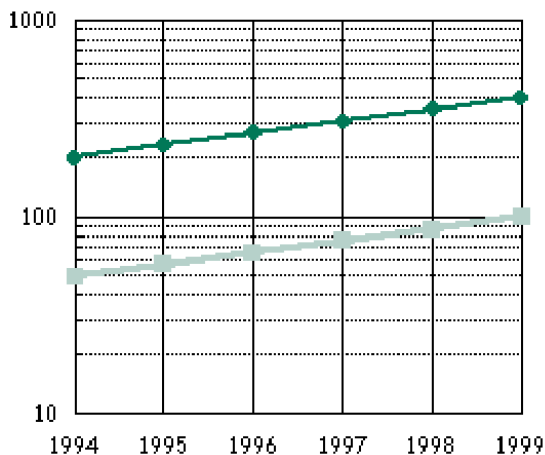
First, assume there are two companies, the Circle Co. (black lines) and Box Co. (green lines) Both are increasing sales at 15 percent a year. Thus, during a five-year period, Circle and Box will both double their sales.

Also, assume that Box initially had sales of \$50 million that increased to \$100. Circle initially had sales of \$200 million that increased to \$400 million.

Look at the plots on the linear scale graph (top). How could you tell, just by looking at the two lines that sales were growing at the same rate? It would be tough.

Now look at the logarithmic scale graph (bottom). It is easy to see that the two lines are parallel . . . and that they are both increasing at the same rate. The slopes (upward angle) of the lines indicate the growth rate.

Logarithmic Scale Graph



upward trends in sales and EPS growth in Section 1 of the SSG. If the graphed lines over the past 10 years are relatively straight, with just one or two 'dips,' then management passes this test.

2. Look for a steady or upward trend in % Pre-tax Profit to Sales in Section 2A. This assures that management is turning sales into profits at a consistent rate.

3. Look for a steady or upward trend in % Earned on Equity in Section 2B. This assures that management is giving shareholders a consistent return on the equity entrusted to them."

Visual Screening is based on Test #1. If a company fails that test, then it may become difficult to decide how to draw a historic trend line and even more difficult to decide how to project a five-year growth line. (This will be demonstrated in subsequent examples.)

Therefore, when a company fails Test #1 it is suggested that beginning investors should not spend any more time working on an SSG for that company.

Optional Reading

This workshop does not require you to plot historical data on an SSG graph or to draw trend lines and projection lines. However, these tasks are very important parts of using an SSG. Beginning investors should strive to become more knowledgeable about how to do them.

Read About the SSG Graph (Section 1)

To read an explanation about why the SSG graph uses a "strange" logarithmic (ratio) scale, point your browser to:

<http://www.better-investing.org/iclub/workshop.html>

When you are there, scroll down to: "Miscellaneous" and locate "Visual Screening Workshop September 1999." Then click on the "View the Workshop Illustrations" icon (magnifying glass). Finally, click on: Log Scale Graphs and scroll down.

Read About Trend Lines and Projection Lines

To become more familiar with the NAIC methods for drawing historic trend lines and projected growth lines, look at part of an SSG tutorial by Douglas Gerlach. Point your browser to:

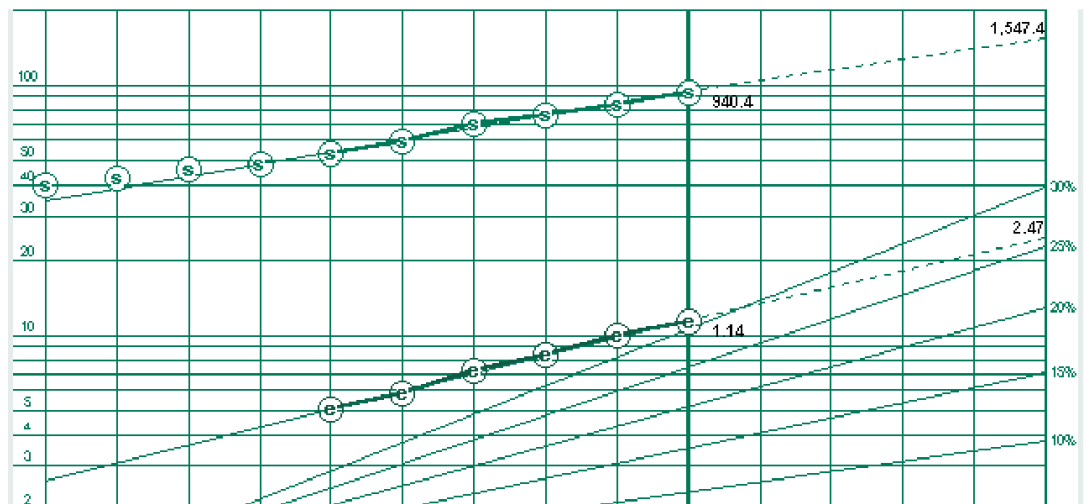
<http://www.iclubcentral.com/ssg/>

Read the page and click on: I Agree.

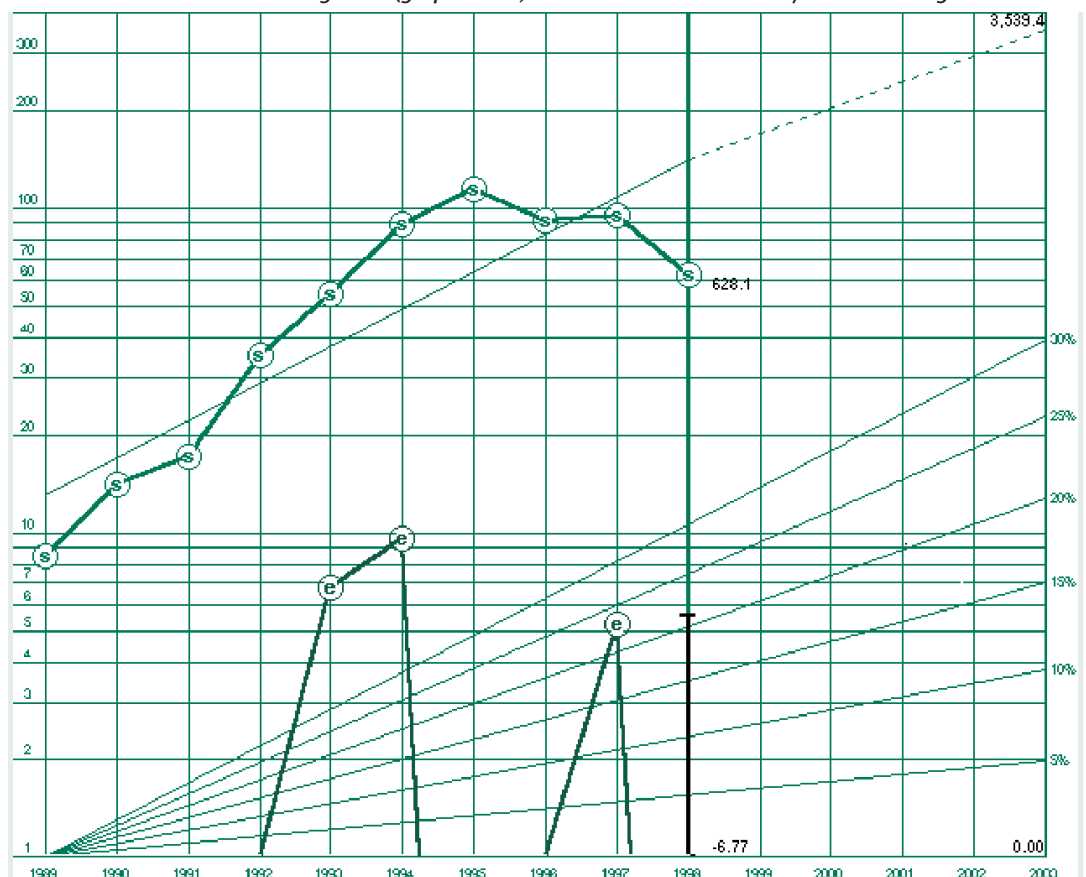
Scroll down to: Section 1 -- Visual Analysis of Sales, Earnings & Price.

Then click on: Estimating Historical Growth

Continued on next page



Steady EPS and sales growth (graph above) as shown in the Visual Analysis of Donaldson Co. Volatile EPS and sales growth (graph below) as shown in the Visual Analysis of Cirrus Logic.



A Visual Screening Workshop for Beginners . . . continued

Workshop #2 Topic: Goals, Approach, Input Data and Example #1 Donaldson Co.

Visual Screening will be demonstrated using three examples. Companies used in the examples were chosen to illustrate three general types of historical growth:

- (1) Steady EPS and sales growth. (Donaldson Co., NYSE: DCI)
- (2) Volatile EPS and sales growth. (Cirrus Logic, NNM: CRUS)
- (3) Volatile EPS growth and relatively steady sales growth. (Mylan Labs, NYSE: MYL)

The examples used in this workshop are typical of many companies.

Data available from two websites, Quicken.com and DailyStocks.net, were used for the workshop. This data allows the Visual Screening process to be performed very rapidly.

The two Web sites were selected because they use a data format that, in some cases, enables a company to be screened out without even entering the data into an SSG. However, images of SSG Section 1 will also be shown to help readers visualize how the website data looks when plotted on an SSG.

Workshop Illustrations

Selections from the Quicken.com site, DailyStocks site and also images of SSG Section 1 for the three companies used as examples are available on the NAIC Online Web Site. Point your browser to:

<http://www.better-investing.org/iclub/workshop.html>

Scroll down to: "Miscellaneous," locate "Visual Screening Workshop September 1999" and click on the "View the Workshop Illustrations" icon (magnifying glass). Then click on: Donaldson Co. and scroll down to look at the Quicken.com graph and table as it appeared in September 1999.

There are values for 10 years of data.

Note that the graph uses a linear scale instead of the log (ratio) scale used on an SSG. However, this provides an opportunity to show why the SSG log scale is superior. (See illustrations, page 2.)

Another minor disadvantage is that the site contains data for net income instead of EPS (earnings per share). However, EPS is obtained by dividing net income by the number of shares outstanding. Therefore, a graph of net income will usually have the

same shape as a graph of EPS. Next, scroll down to the DailyStocks table.

There are values for six years of data.

The first and second rows show Revenues and Revenue Pct Chg (vs. Year Before).

The sixth and seventh rows show EPS and EPS Pct Chg (vs. Year Before).

Example 1 - DONALDSON CO. NYSE: DCI

Donaldson was selected because it will pass the first test for good management. This test was defined in Session #1 as:

"1. Look for relatively steady upward trends in sales and EPS growth in Section 1 of the SSG. If the graphed lines over the past 10 years are relatively straight, with just one or two 'dips,' then management passes this test."

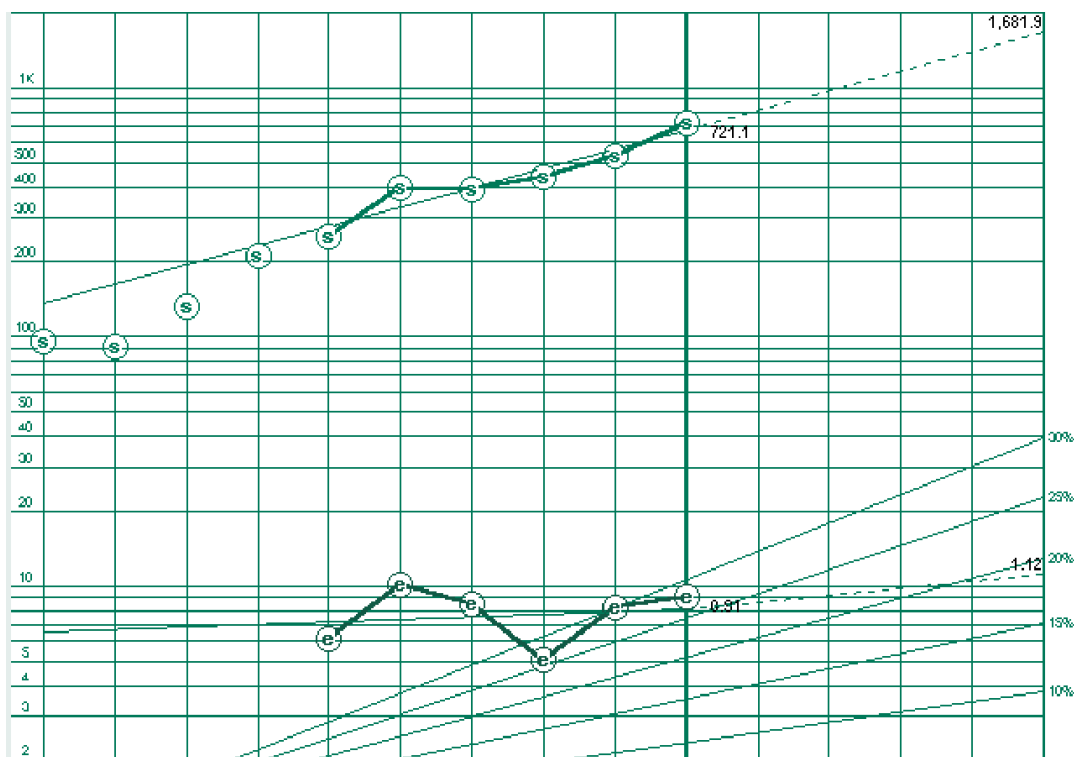
Scroll back up to the chart and table of data from the Quicken.com site.

The line for revenue is curving upward and is relatively smooth. The table just below the chart shows that revenue has increased every year. That's what we want to see.

Just as a point of interest, note that the chart shows a somewhat larger increase in revenue for 1995 and a smaller increase in 1996. Keep this in mind when we look at the DailyStocks.net table.

The line for net income appears to be rising somewhat, but at a much slower rate than revenue. This is an "optical illusion" characteristic of a chart that uses a linear scale instead of the log (ratio) scale used in SSG Section 1. The table just below the chart shows that net income has increased every year.

Look down to the Historical Comparison table. Note that



Volatile EPS growth and relatively steady sales growth as shown in the Visual Analysis of Mylan Labs

net income growth (13.08 percent) has been greater than Revenue growth (9.72 percent). This demonstrates the “optical illusion” effect mentioned in the previous paragraph. Along the top of this table are a series of buttons to select the period of the growth rate calculations. The site's default period is five years.

This quick visual analysis indicates that Donaldson passes the first test for good management.

Now scroll down to the DailyStocks.net table. Six years of annual data are shown. Values for revenues match the values shown on the Quicken.com Site. There is no graph, but yearly percentage changes are shown and color coded green to indicate that revenues have increased each year. Note that a 19 percent revenue increase is shown for 1995 followed by an 8 percent increase in 1996. That's what produced the “bump” in the Quicken.com chart.

Net income is shown and matches the Quicken.com site.

Earnings per share (EPS) and the yearly percentage changes are also shown. The green color coding indicates that EPS has increased every year since 1994.

As with the Quicken.com site, a quick observation shows that the company passes the first test for good management. You decide if you prefer one site to the other, or even prefer to look at both sites.

Scroll down to the SSG Section 1 for Donaldson. (See top chart, page 3.) Note how the log (ratio) scale clearly shows that historical EPS growth rate has been greater than the historical revenue growth rate.

Observe how close the historical data points are to the historical trend lines. That shows how consistently Donaldson's revenues and EPS have increased over the past six years.

The lines projecting revenues and EPS five years into the future should be based on more than just continuing along the historical trend lines. Even so, it is not unreasonable to expect that future revenue and EPS values may well continue to increase at about the historical rate when you see the degree of consistency shown by smooth historical trend lines like those of Donaldson.

“A key point here is that when Visual Screening shows that a company fails test #1 very badly, it will often be very difficult (almost impossible) to decide how to draw historic trend lines and projected growth lines. A corollary of this is that if you have difficulty deciding where to place historical trend lines, then the company probably fails test #1.”

Using the Websites

Practice using the two sites now with Donaldson, DCI. Use these basic directions for future evaluation of other companies.

First, point your browser to the Quicken.com Web Site:

<http://www.quicken.com/investments/stkeval/>

Enter the DCI ticker symbol and click on GO. When the new page is displayed, scroll down until you see the graph and table for 10 years of data.

Next open a second instance of your browser and point to the DailyStocks.net site:

<http://www.dailystocks.net>

1. Enter DCI in the Symbol box and click Go.

2. Scroll down until you see the major heading “Fundamentals, Research & Others.”

3. Look down five rows in the right-hand column and click on “5 Yr Income/Balance Sheet/Financials.

Workshop #3 Topic: Example #2: Cirrus Logis and Example #3: Mylan Labs

Example #2 - Cirrus Logic (NNM: CRUS)

Cirrus (CRUS) was selected because it clearly does not pass the first test for good

that revenues decreased in 1997 and 1999. Red color coding in the EPS row highlights that there were losses in 1996, 1997, and 1999.

Cirrus has been quickly screened out! Move on to another company.

However, for educational purposes, scroll down to the partially filled in SSG Section 1 for Cirrus. (See bottom graph, page 3.)

Observe that the revenue data points do not fall close to the 10-year historical trend line. Just try to visualize where you might draw a five-year historical trend line. Sales have actually declined during the past five years. What basis would you use to select a projected revenue growth rate? How much confidence would you have that actual future sales values would be anywhere near the projected growth rate line? The EPS data is even worse than the revenue data.

A key point here is that when Visual Screening shows that a company fails test #1 very badly, it will often be very difficult (almost impossible) to decide how to draw historic trend lines and projected growth lines. A corollary of this is that if you have difficulty deciding where to place historical trend lines, then the company probably fails test #1. More will be said about this in Session #5.

One final comment for future reference. Observe in SSG Section 1 that the plot of historical revenue data is smoother than the plot of historical EPS data. This situation exists for many companies.

Example #3, Mylan Labs (NYSE: MYL)

Continued on next page

A Visual Screening Workshop for Beginners . . . continued

Scroll to the top or bottom of the Workshop Illustration page and click on Mylan Labs.

The Quicken.com chart shows that revenues have been rising fairly steadily. They are not quite as smooth as the chart for Donaldson, but not bad. Revenue had a big jump in 1995, followed by a small decline in 1996. By now you may be able to anticipate how this will be reflected in the percent change in revenue when we switch to the Daily Stocks site.

The chart and table show that net income increased from 1990 to 1995. The situation for net income is not pretty after 1995. The chart and the table for net income both show that net income decreased significantly in 1996 and 1997. The table shows that net income decreased from 120.9 in 1995 to only 63.1 in 1997 — almost a 50 percent drop. Net income has increased during the past two years, but it has not quite recovered to the 1995 level.

Look down to the Historical Comparison table for five years. It shows that the revenue growth rate was 17.27 percent and net income growth rate was only 1.78 percent.

Now look at the DailyStocks.net site. The Revenue Pct Chg row shows the big percentage change in revenue for 1995 (57 percent) and the small percentage decrease in 1996 (-1percent). This row also gives a better picture of how revenue growth has been accelerating during the past three years (from 12 percent in 1997 to 36 percent in 1999).

The Net Income, EPS and EPS Pct Chg rows convey much the same information as the Quicken.com site Net Income chart and table.

Based on the erratic earnings during the past five years, beginning investors should screen out Mylan. There is no need to continue with an SSG. Move on to another company.

However, for educational purposes, scroll down to the partially filled in SSG Section 1 for Mylan Labs. (See page 4)

As anticipated, the revenue data is fairly close to a historic trend line. However, the EPS data is so scattered that it is very difficult to decide where to place a historic trend line. Beginning investors should not spend any more time on this SSG.

This is a second example of historical revenue data being smoother than historical EPS data.

Cirrus and Mylan illustrated how Visual Screening can be used to quickly screen out companies that clearly do not pass test #1 for quality management.

Workshop #4 Topics: Review and Additional Tests

So far this workshop has demonstrated how data available from free websites can be used by beginning investors to very quickly screen out some companies.

Two examples provided insight about why it is important for companies to pass test #1 for consistently increasing sales and earnings per share. That is, it may be almost impossible to draw meaningful historic trend lines and projected growth lines for some companies that don't pass test #1.

The advantage of using the websites for Visual Screening

is that it is a very fast way to examine data and screen out companies that clearly do not pass test #1.

Two Additional Visual Screening Suggestions

1. NAIC suggests that at least five years of historical data should be available in order to perform an SSG analysis. (The Stock Check List needs seven years of data).

2. Beginning investors should avoid trying to perform an SSG or SCL analysis of very small companies (sales less than \$100 million, for example). It is often difficult to obtain information to complete an SSG or SCL for very small companies.

Visual Screening using websites allows beginning investors to quickly eliminate companies that have less than five/seven years of historical data or have current sales less than \$100 million.

Extending the Visual Screening Process

The rest of the workshop looks at some issues that go beyond the basic approach of using websites for Visual Screening. Hopefully this will assist beginning investors to progress to a more advanced level.

You will almost certainly find situations where the historical sales and EPS data shown by the websites doesn't look real good, but not real bad either. How do you decide if you want to continue with an SSG or not? I don't have a definitive answer. It's going to boil down to using your judgment. However, here is a visual approach for your consideration.

Plot the historical EPS data

points on Section 1 of an SSG. Look at the data points and ask yourself where you would draw historical trend lines. If you have difficulty in deciding where to place the historical trend lines or if you think some of the data points are too far above or below the trend line, then move on to another company.

All I have done is "circle back" to the time proven, traditional method of using the SSG Section 1 to perform a visual analysis of historical data. I realize that many beginning investors aren't comfortable with using SSG Section 1 and prefer the Stock Check List. Hopefully the examples in this workshop will motivate you to also begin plotting data in SSG Section 1.

Additional Management Tests

In Session #1 three tests for good management were listed. This workshop has been limited to using the first test to screen out companies. Let's take a quick look at the other two tests. They are summarized below:

2. Look for a steady or upward trend in % Pre-tax Profit to Sales in Section 2A.
3. Look for a steady or upward trend in % Earned on Equity in Section 2B.

You may wonder why tests #2 and #3 were not used in the Visual Screening process.

Well, data plotted graphically in SSG Section 1 and the data entered in SSG Section 2 are strongly related. A company that does not pass test #1 will almost certainly fail tests #2 and #3. Details to support this statement go beyond the

scope of this workshop. However, the validity of the statement can be demonstrated by the following example.

Point your browser to:

<http://www.better-investing.org/educate/visual/graphs.html>

and click on: Mylan Labs.

Scroll down until you can see the EPS (blue line) graph and the SSG Part 2 on your screen.

The years do not show on the bottom of the graph, but the EPS data points are for years 1993 through 1998.

Look at the values in SSG part 2A (% Pre-tax Profit on Sales).

Observe that when EPS increased from 1993 to 1994, the values in SSG part 2A also increased for those two years (22 percent for 1993 and 34.8 percent for 1994). EPS decreased for the years 1995 and 1996. The values in 2A also decreased. EPS increased in 1997 and 1998. The values in 2A also increased.

Look at SSG Part 2B. Note that there is a similar (although not identical) pattern.

This illustrates that when EPS “bounces around” (fails test #1), then the values in SSG Parts 2A and 2B are also likely to “bounce around” (fails tests #2 and #3).

When the EPS data plotted in SSG Section 1 become smoother, it is less likely that test #1 will fail. Then tests #2 and #3 become more useful. A company that passes test #1 may or may not pass tests #2 and #3.

“Remember . . . that historical EPS “often” varies more than historical revenues. (Exceptions may occur when a company makes acquisitions or spinoffs.) Although the precise width of the EPS and revenue bands are a matter of personal judgment and comfort, you should be less accepting of variations in revenues.”

Workshop #5 Topics: Risk and Uncertainty

There will be times when it's not difficult to select a historic trend line, but the data points are not quite as close to the line as you might prefer. In these cases continue preparing a SSG, but be aware there will be some risk and uncertainty in your projected EPS. One way to obtain a feel for the amount of uncertainty is described below.

Begin by assuming that if historic EPS data points fall very close to the historic trend line, then it is not unreasonable to anticipate that future EPS data points could fall close to a five-year projected EPS growth line. In other words, since management was able to achieve steady EPS growth in the past, it is not unreasonable to anticipate that they might be able to continue doing this for awhile longer. Therefore, you have reasonable confidence that the actual EPS in five years may be close to your projected value.

Conversely, assume that some of the historic EPS data points aren't quite as close to the historic trend line as you prefer. Then it is not unreasonable to anticipate that future EPS data points could fall above or below a five-year projected growth line by about the same amount. You would have less confidence that the actual EPS in five years would be close to your projected value. Try using the following process a couple times to get

a feel for how much confidence to place in your projected EPS value:

1. Enter the historical EPS data in SSG Section 1.
2. Use your judgment to draw a historical trend line.
3. Draw (or visualize) parallel lines above and below the trend line. These lines should form a band that barely encloses all (or most) of the historical EPS data points.
4. Decide on the five-year projected growth line you want to use. Then draw (or visualize) parallel lines to form the same size band selected for the historical data.

To look at an example, point your browser to:

<http://www.better-investing.org/educate/visual/graphs.html>

and click on: Uncertainty Bands and scroll down.

Assume that the past performance of management in controlling EPS growth continues into the future. Then these bands provide an intuitive feel for how much future EPS data points might deviate above and below the projection line. A wide band indicates increased uncertainty and risk. How would you feel if, five years into the future, the EPS happened to be close to the bottom of the band? Each of us has to establish our own tolerance to risk. If the band is too wide for

your comfort, stop and move on to another company.

You may want to repeat the above process for revenue data, especially if you use the Preferred Procedure to project future EPS.

Remember from the examples of Cirrus Logic and Mylan Labs in Session #3 that historical EPS “often” varies more than historical revenues. (Exceptions may occur when a company makes acquisitions or spinoffs.) Although the precise width of the EPS and revenue bands are a matter of personal judgment and comfort, you should be less accepting of variations in revenues. Thus, you usually should look for the revenue band to be narrower than the EPS band.

Visual Screening Without A Computer

During preparation of this workshop it was pointed out to me that many beginning investors may not use a computer nor have access to the Internet. This brought up the question of how those investors could use Visual Screening.

As stated earlier, Visual Screening is not new. This workshop just shows how using data available on websites can speed up the process of quickly eliminating unsuitable companies. There is no reason that Visual Screening cannot be performed using printed data from sources such as Value Line, S&P Reports or Green Sheets. Investors have been doing this for decades. Value Line and S&P Reports are available in many libraries. The Green Sheets are available free to NAIC members. For informa-

Continued on next page

Visual Screening Workshop cont. from p. 7

tion about how to obtain Green Sheets, point your browser to:

<http://www.better-investing.org/codata/green.html>

Once a copy of the printed data is obtained, the procedure for Visual Screening is exactly the same as when looking at tabular data from a website.

If you are interested, make copies of Value Line sheets for the three companies used as examples in this workshop. The Value Line data does not

always exactly match the data in the websites used for this workshop. However, the data are close enough that there will be no change in the conclusions for each of the examples.

Visual Screening using website data is a quick way to eliminate companies that do not pass test #1 for good management. It is an efficient technique for determining if companies recommended in magazine articles or other sources such as brokers or advisory services are suitable for further evaluation.

Computer Group Board for 1999-2000

At its meeting this month in Albuquerque, the site of CompuFest 2000, the Computer Board approved the election of the following officers for 1999-2000.

The Computer Group officers are: Werner H. Wahl, Ph.D., chairman; Joseph N. Craig, Ph.D., president and CEO; Bob Schaelchlin, treasurer and Douglas Gerlach, secretary.

New directors of the Computer Group Board include: Robert L. Adams, Sandra F. Barlow, Cy Lynch and Pamela Wright.

Computer Group Directors reelected to continue in their positions include: Herbert Barnett, Nancy Crays, Ph.D., Many Ann Davis, Philip J. Keating, Phyllis Pawlovsky, Hans Steinke and G. Ken Wood. They join Directors Mike Bacsá, Chris Collins, Steve Martin, Pat McVey-Ritsick, Ken Morris, Bill Thomas and Leslie Wilkinson who were not up for reelection.

The new Computer Group Associate Director is Kathleen Boettcher. Kenneth Halwas, Ph.,D. and Bart Womack were reelected as Associate Directors.