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HOW TO USE THE VALUE LINE INVESTMENT SURVEY®

The Value Line Investment Survey is a unique source of financial information designed to help investors make informed investment decisions that fit their individual goals and levels of risk. It is: (1) a proven forecaster of stock price performance over the next six to 12 months; (2) a source of interpretative analysis of approximately 1,700 individual stocks and approximately 100 industries; and (3) a source of historical information that helps investors spot trends.

Part 1—Summary & Index

Please start with the Summary & Index. The front page contains a Table of Contents, three important market statistics, and a list of all the industries we follow in alphabetical order with the relative industry rank to the right of the industry name and the page number of the industry analysis in Ratings & Reports listed under PAGE. The market statistics are found in three boxes. The first box (a) has the median of estimated price/earnings ratios of all stocks with earnings in The Value Line Investment Survey. The second box (b) shows the median of estimated dividend yields (total dividends expected to be paid in the next 12 months divided by the recent price) of all dividend-paying stocks in The Survey. The third box (c) contains the estimated median price appreciation potential 3 to 5 years into the future for the approximately 1,700 stocks in The Survey. While that median may prove to be optimistic, it serves as an indicator of the relative level of the market. By studying these statistics, a fairly good picture emerges of how the universe of Value Line® stocks is currently being evaluated. The Value Line universe of approximately 1,700 stocks comprises approximately 90% of the market capitalization of all stocks traded in U.S. markets.

If you come across any unfamiliar terms as you read through this guide, please refer to the Glossary which is available on our website, www.valueline.com.
Beginning on page 2, the Summary & Index also includes an alphabetical listing of all stocks in the publication with references to their location in Part 3, Ratings & Reports. If you are looking for a particular stock, look inside the Summary & Index section, which is updated each week to provide the most current data on all companies included in The Value Line Investment Survey.

To locate a report on an individual company, look for the page number just to the left of the company name. Then turn to that page in Part 3, Ratings & Reports, where the number appears in the upper right corner.

In the far left column of Summary & Index is a number that refers to recent Supplementary Reports, if any, which are included on the back pages of Ratings & Reports. If two asterisks (**) appear in this column, it means that there is a Supplementary Report in the current issue.

There are many columns in the Summary & Index with more information on each of the approximately 1,700 stocks we cover, including from left to right:

- Page numbers for the latest company report and any recent Supplementary Report (Supplementary Reports are published at the back of Ratings & Reports)
- The name of each stock and the exchange on which it is traded (the New York Stock Exchange, unless otherwise indicated)
- Each company's stock exchange (ticker) symbol
- The recent stock price (see the top of page 2 in Summary & Index under Index to Stocks for the specific date)
- Value Line's proprietary Timeliness, Safety and Technical ranks (See Chapter 3 and the online Glossary for definitions. For a more detailed review, read The Definitive Guide To the Value Line Ranking System.)
- Beta (a measure of volatility)
- Each stock's 3- to 5-year projected Target Price Range and the percent appreciation potential
- Each stock's current P/E ratio
- Each stock's estimated dividend yield
- Each stock's estimated earnings (approximately 6 months historical, 6 months estimated)
- Each stock's estimated dividends for the next 12 months
- Each stock's Value Line Industry rank (see Chapter 6)
- Latest earnings and dividend declarations
- Options trade indicator

There is also a wealth of information in the form of stock screens toward the back of the Summary & Index. The stock screens are a good place to start for anyone looking for investment ideas or help in forming a strategy. They are also useful for investors who want a list of stocks relevant to specific strategies they may have in mind.

Some examples of our useful screens are:

- Industries in Order of Timeliness
- Stocks Moving Up or Down in Timeliness Rank this week
- Timely Stocks in Timely Industries
- Conservative Stocks (stocks ranked above average for Safety)
- Highest Dividend Yielding Stocks
- Stocks with the Highest Estimated 3- To 5-Year Price Appreciation Potential
- Best/Worst Performing Stocks in the Past 13 Weeks
- Stocks With the Lowest and Highest P/E Ratios
- Stocks with the Highest Estimated Annual Total Returns (Next 3 To 5 Years)
- Stocks with the Highest Projected 3- To 5-year Dividend Yield
- Highest Growth Stocks (Definition Under The Title)
PART 2—SELECTION & OPINION

Selection & Opinion (S&O) contains Value Line’s latest economic and stock market commentary, along with additional information, such as one or more pages of research on interesting stocks or industries, and a variety of pertinent economic and stock market statistics. It also includes four model stock portfolios (Stocks with Above-Average Year-Ahead Price Potential, Stocks for Income and Potential Price Appreciation, Stocks with Long-Term Price Growth Potential, and Stocks with Above-Average Dividend Yields). For more information on the portfolios, see page 17 in this Guide. If you spend time with Selection & Opinion each week, you should be able to get some valuable investment ideas.

PART 3 - RATINGS & REPORTS

Ratings & Reports is the core of The Value Line Investment Survey with one-page reports on approximately 1,700 companies and one-page reports on approximately 100 industries. The company reports contain a summary describing the business, Timeliness, Safety and Technical ranks, our 3- to 5-year forecasts for stock prices, income and balance sheet data, as much as 17 years of historical data, capital structure and our analysts’ commentaries. They also contain stock price charts; quarterly sales, earnings, and dividend information; and a variety of other very useful material. Each page in this section is fully updated every 13 weeks. When unexpected important news occurs during these 13 week intervals, a Supplementary Report (appearing in the back section of Ratings & Reports) is published. If there is a Supplementary Report, its page number will be shown in the far left hand column of the Summary & Index, near the company name (two asterisks — ** — indicate that a Supplementary Report is in this week’s Edition).

Every week subscribers receive a new Issue of Ratings & Reports containing approximately 135 company reports grouped by industry and a smaller number of one-page industry reports. The industry reports precede the reports on the companies in that industry. Over the course of three months, new reports are issued on all of the approximately 1,700 companies and some 100 industries.
Creating an investment strategy is not an easy task. It encompasses many facets of your life, from your personality traits to your current life situation. Value Line recommends that most investors diversify their assets so that one’s eggs are spread among many baskets. This will help to ensure that dropping one basket will result in as minimal an impact as possible on your overall financial well being.

To that end, we have created an entire workbook that will help you to create an individualized portfolio. You should take a few minutes and go through that booklet, titled Value Line’s Guide To Planning An Investment Strategy, and return to it in reviewing your portfolio.

In the end, you should diversify by asset class (i.e., stocks and bonds) and within asset classes (i.e., owning multiple stocks, in several industries).

This can be achieved in multiple ways, from directly purchasing the securities yourself to hiring someone else to purchase them for you (an example of this would be retaining a financial advisor). Assuming you intend to purchase securities yourself, Value Line suggests owning at least 10 to 20 stocks across 10 or more industries to help ensure proper diversification.

When you choose stocks, Value Line normally has adequate accurate information from the companies to give you the guidance you need to make your own selections. Sometimes less data are available on bonds and foreign stocks, so you might choose to purchase a bond fund instead of buying bonds directly. Also, commissions or “spreads” on bonds and some stocks may be substantial for individual investors but lower for funds that can buy and sell large lots. This would result in a much more manageable portfolio consisting of 10 to 20 stocks and one bond fund. Moreover, the bond component would remain diversified because, by their very nature, mutual funds and exchange-traded funds (ETFs) are usually diversified. (Note that this is not always the case, so that care must be taken in understanding the mutual funds or ETFs you select.)

Again, we have constructed a workbook to help you with the asset allocation portion of your decision process that we strongly suggest you read. The keys are to be diversified across asset classes, industries within asset classes, and to keep the investing processes manageable and, hopefully, both profitable and enjoyable.

Once you have decided on a broad portfolio structure, you will need to start filling in the asset class buckets. How you decide to go about this will depend both on the buckets that you need to fill (for example, the Large Cap Growth category will require a different approach than the Large Cap Value category) and on your personal preferences (for example, a desire for current income would require a different approach than a quest for only capital appreciation). Where do you begin?

With approximately 1,700 stocks in our coverage universe, simply opening the first issue and starting to examine each stock report in search of the 10 to 20 stocks you want to
own would be a daunting, if not impossible, task. This is why we have included a number of stock screens in the back of each Summary & Index that we believe will provide a good starting point for any investor.

The screens are updated weekly and cover a broad range of investment options, including Timely Stocks in Timely Industries, Conservative Stocks, Highest Dividend Yielding Stocks, and Stocks with High 3- to 5-Year Appreciation Potential, among many others. A description of the screens presented is provided if the title of a screen is not self-explanatory. Because there are many more screens than the ones listed here, you should take a look at the pages in the back of the Summary & Index to get a feel for which ones will best fit your specific needs. Regardless of which screens you choose to use, this approach will provide you with a short list of companies to research.

However, for those who want more guidance than a static screen, we have also created four model portfolios: Portfolio I (Stocks with Above-Average Year-Ahead Price Potential), Portfolio II (Stocks for Income and Potential Price Appreciation) Portfolio III (Stocks with Long-Term Price Growth Potential) and Portfolio IV (Stocks with Above-Average Dividend Yields). These portfolios are overseen by senior Value Line analysts and are updated weekly in the Selection & Opinion section. On a quarterly basis, a more in-depth review is provided detailing the most recent performance of each portfolio. These portfolios offer another convenient starting point for considering stocks for inclusion in your own portfolio.

On an ongoing basis, we also provide stock screens and stock highlights in the Selection & Opinion section. The screens go beyond those included on a weekly basis in the Summary & Index and often provide a different and unique view of an investment approach. The stock highlights are a more in-depth review of a company that we believe merits a second look. Although these two options may not be the best starting point for you, they can play an important role in providing new and interesting investment ideas down the road.
The Value Line Investment Survey has a number of unique features that distinguish it from other publications and make it easier for you to have accurate, timely information so that you may keep up to date on all developments affecting your investments.

Probably the most famous is Value Line’s time-honored Ranking System for Timeliness and Safety, which ranks approximately 1,700 stocks relative to each other for price performance during the next six to 12 months. The newer Value Line Technical rank is designed to predict short-term stock price movements (three to six months). In each case, stocks are ranked from 1 to 5, with 1 being the highest ranking.

For a more in-depth look at the Value Line Ranking system, including a review of the system’s excellent historical performance, please read The Definitive Guide To The Value Line Ranking System.

TIMELINESS

The Value Line Timeliness Rank measures relative probable price performance of the approximately 1,700 stocks during the next six to 12 months on an easy-to-understand scale from 1 (Highest) to 5 (Lowest). The components of the Timeliness Ranking System include trends of relative earnings and prices, recent earnings and price changes, and earnings surprises. All data are actual and known. A computer program combines these elements into a forecast of the price change of each stock, relative to all other approximately 1,700 stocks for the six to 12 months ahead. We recommend if you are a growth oriented investor that your portfolio be comprised for the most part of stocks ranked 1 or 2. Of course, income needs and tax considerations can cause you to modify this general rule.

**Rank 1 (Highest):** These stocks, as a group, are expected to be the best performers relative to the Value Line universe during the next six to 12 months (100 stocks). Because the future is uncertain, many readers think of the 1’s and 2’s almost interchangeably.

**Rank 2 (Above Average):** These stocks, as a group, are expected to have better-than-average relative price performance (300 stocks).

**Rank 3 (Average):** These stocks, as a group, are expected to have relative price performance in line with the Value Line universe (approximately 900 stocks).

**Rank 4 (Below Average):** These stocks, as a group, are expected to have below-average relative price performance (300 stocks).

**Rank 5 (Lowest):** These stocks, as a group, are expected to have the poorest relative price performance (100 stocks).

Changes in the Timeliness ranks can be caused by:

1. New earnings reports
2. Changes in the price movement of one stock relative to the approximately 1,700 other stocks in the publication.
3. Shifts in the relative positions of other stocks

| TIMELINESS | 2 | Raised 7/26/13 |
| SAFETY | 1 | New 7/27/90 |
| TECHNICAL | 4 | Lowered 8/23/13 |
| BETA | .65 | (1.00 = Market) |

Sample Ranks Box

SAFETY

A second key investment criterion is the Safety rank assigned by Value Line to each of the approximately 1,700 stocks. The Value Line Safety rank measures the total risk of a stock relative to the approximately 1,700 other stocks. It is derived from a stock’s Price Stability rank and the Financial Strength rating of a company, both shown in the lower right hand corner of each page in Ratings & Reports. Safety ranks are also assigned on a scale from 1 (safest) to 5 (riskiest) as follows:

**Rank 1 (Highest):** These stocks, as a group, are the safest, most stable, and least risky investments relative to the Value Line universe, which accounts for about 90% of the market capitalization of all stocks in the U.S.

**Rank 2 (Above Average):** These stocks, as a group, are safer and less risky than most.

**Rank 3 (Average):** These stocks, as a group, are of average risk and safety.

**Rank 4 (Below Average):** These stocks, as a group, are riskier and less safe than most.

**Rank 5 (Lowest):** These stocks, as a group, are the riskiest and least safe.

Stocks with high Safety ranks are often associated with large, financially sound companies; these same companies also often have somewhat less than average growth prospects because their primary markets tend to be growing slowly or not at all. Stocks with low Safety ranks are often associated with companies which are smaller and/or have weaker-than-average finances; on the other hand, these smaller companies sometimes have above-average growth prospects because they start with a lower revenue and earnings base.

**The Penalty and Reward of Risk**

A risky stock is one which has low Price Stability and whose price fluctuates widely around its own long-term trend. It may also be a stock of a company with a low Financial Strength rating. One may reasonably assume that the price of a risky stock will go up more than that of a safe stock in a generally strong market. Yet, if in the interim it went down more sharply and you had to sell at an inopportune time, you could suffer a heavier penalty for having bought the high-risk stock instead of the safer one.

Stocks with high (1 or 2) Value Line Timeliness ranks are predicted to decline less than the market average during a decline, but are geared to a period of six to 12 months. They cannot be relied upon to help protect against a sharp drop in the stock market continuing for many weeks or months, as a high Safety rank may do.

TECHNICAL

The Value Line Technical rank uses a proprietary formula to predict short-term (three to six month) future price returns relative to the Value Line universe. It is the result of an analysis which relates 10 price trends of different duration for a stock during the past year to the relative price changes of the same stock expected over the succeeding three to six months. The Technical rank is best used as a secondary investment criterion. We do not recommend that it replace the Timeliness rank. As with the other ranks, the Technical rank goes from 1 (Highest) to 5 (Lowest).

INDUSTRY

Value Line also publishes Industry ranks which show the Timeliness of each industry. These ranks are updated weekly and published on the front and inside pages of the Summary & Index. They also appear at the top of each Industry Report. The Industry Rank is calculated by averaging the Timeliness ranks of each of the stocks which have been assigned a Timeliness rank in a particular industry, and then listing the industries in order of average Timeliness. Industries contain different numbers of stocks. For more information, see page 13.
Understanding the Value Line Page

To start studying a stock, we suggest that you concentrate on four features found on every Ratings & Reports page (a sample is printed on the inside rear cover). We have also included an enlarged sample page with the welcome package. First, we recommend that you look at the Timeliness and Safety ranks (see item 1 of the sample page) shown in the upper left corner of each page. Then, note the Financial Strength rating and read the business description and the Analyst’s Commentary (item 17) in the bottom half of each report. Next, we suggest you look at our forecasts for various financial data including the stock price (items 11, 15, 22, 23, and 29). These forecasts are explained in more detail later in this Chapter. Finally, we think you should study the historical financial data appearing in the Statistical Array in the center of the report (item 26). Illustrations and more detail follow. There is also a lot of other useful information on each page, but the four features mentioned above provide the best place to begin.

VALUE LINE RANKS
(See 1 on the sample page)

A synopsis of the Value Line Ranking System follows. For a more detailed description, please refer to The Definitive Guide To The Value Line Ranking System.

Timeliness
The Timeliness rank is Value Line’s measure of the expected price performance of a stock for the coming six to 12 months relative to our approximately 1,700 stock universe.

<table>
<thead>
<tr>
<th>TIMELINESS</th>
<th>SAFETY</th>
<th>TECHNICAL</th>
<th>BETA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>4</td>
<td>.65</td>
</tr>
<tr>
<td>Raised 7/26/13</td>
<td>New 7/27/90</td>
<td>Lowered 8/23/13</td>
<td>(1.00 = Market)</td>
</tr>
</tbody>
</table>

Stocks ranked 1 (Highest) and 2 (Above Average) are likely to perform best over the 6 to 12 months relative to the others. Stocks ranked 3 are likely to be average performers relative to the Value Line universe. Stocks ranked 4 (Below Average) and 5 (Lowest) are likely to underperform stocks ranked 1 through 3 in Value Line’s stock universe.

Just one word of caution. Stocks ranked 1 may prove volatile and often tend to have smaller market capitalizations (the total value of a company’s outstanding shares, calculated by multiplying the number of shares outstanding by the stock’s market price per share). Conservative investors may want to select stocks that also have high Safety ranks because they are usually more stable issues.

Safety
The Safety rank is a measure of the total risk of a stock compared to others in our approximately 1,700 stock universe. As with Timeliness, Value Line ranks stocks from 1 (Highest) to 5 (Lowest). However, unlike Timeliness, the number of stocks in each category from 1 to 5 is not
fixed. The Safety rank is derived from two measurements (weighted equally) found in the lower right hand corner of each page: a company’s Financial Strength and a stock’s Price Stability. Financial Strength is a measure of the company’s financial condition, and is reported on a scale of A++ (Highest) to C (Lowest). Larger companies with strong balance sheets get the higher scores. A Stock’s Price Stability score is based on a ranking of the standard deviation (a measure of volatility) of weekly percent changes in the price of a stock over the last five years, and is reported on a scale of 100 (Highest) to 5 (Lowest) in increments of 5.

Technical
The Technical rank is primarily a predictor of short-term (three to six months) relative price change. It is based on a proprietary model which examines 10 short-term price trends for a particular stock over different periods in the past year. The Technical ranks also range from 1 (Highest) to 5 (Lowest). At any one time, approximately 100 stocks are ranked 1; 300 ranked 2; 900 ranked 3; 300 ranked 4; and 100 ranked 5.

Beta
This is a measure of volatility, as calculated by Value Line. While it is not a rank, we do consider it important. See the online Glossary for more detail.

ANALYST’S COMMENTARY
(17 on the sample page)

Next, look at the analyst’s written commentary in the lower half of the page. Many readers think this is the most important section of the page. In the commentary, the analyst discusses the company’s recent performance and his/her expectations for the stock’s future. There are times when the raw numbers don’t tell the full story. The analyst uses the commentary to explain why the forecast is what it is. The commentary is also particularly useful when a change in trend is occurring or about to occur. As an example, a stock may have a low (i.e., 4 or 5) Timeliness rank but the analyst thinks earnings could turn around in the future. In this case, the analyst may use the commentary to explain why he/she thinks conditions are likely to get better, thus giving the subscriber insight into what is happening, and why, as well as the stock’s prospects.

FINANCIAL AND STOCK PRICE PROJECTIONS

Value Line’s securities analysts make a variety of financial and stock price projections in most reports we publish. They make Estimates for 23 different numbers and ratios going out 3 to 5 years into the future in the Statistical Array (item 15 on the sample page). They also forecast a projected Target Price Range (item 11) for each stock, going out 3 to 5 years. And finally they show the 3-to-5-year Projections (item 29) for the price of the stock, along with the expected percentage appreciation (depreciation) and the expected annual total return (including dividends). These projections are discussed below.

Financial Estimates
(15 on the sample page)

In the Statistical Array in the center of the report (where most of the numbers are), Value Line provides both historical data and financial projections. All projections are printed in bold italics.

The estimates of sales, earnings, net profit margins, income tax rates, and so forth are all derived from spread sheets maintained on every company and updated quarterly. Afterward, they make whatever adjustments they believe are warranted by unusual developments that may not be revealed in the numbers, e.g., the expected outcome of pending lawsuits affecting the company’s finances, the anticipated success of new products, etc.
Target Price Range

In the upper right-hand section of each report is a Target Price Range. The Target Price Range represents the band in which the expected average price is likely to fall in the next 3 to 5 years. The prices are based on the analyst’s projections in the period out 3-to 5 years for earnings multiplied by the average annual price/earnings ratio in the Statistical Array for the same period. The width of the high-low range depends on the stock’s Safety rank. (A stock with a high Safety rank has a narrower range, one with a low rank, a wider band.)

3- to 5-Year Projections

(29 on the sample page)

In the left hand column of each report, there is also a box which contains Value Line’s high and low stock price projections for a period 3 to 5 years in the future. You can see the potential average high and low prices we forecast, the % price changes we project, and the expected compound annual total returns (price appreciation plus dividends). To make these calculations, analysts compare the expected prices out 3 to 5 years into the future (as shown in the Target Price Range and Projections box) with the recent price (shown on the top of the report).

Investors whose primary goal is long-term price appreciation should study the 3- to 5-year Projections carefully and choose stocks with above-average price appreciation potential. For comparative purposes, you can find the weekly Estimated 3 - 5 Year Median Price Appreciation Potential for all approximately 1,700 stocks on the front page of the Summary & Index.

The Target Price Range and 3-to 5-year Projections are necessarily based upon an estimate of future earnings. They are, therefore, very subjective. These should not be confused with the Timeliness rank for 12-month performance, which is independent of estimates and based solely on historical data.
ANNUAL RATES OF CHANGE
(Item 23 on the sample page)

At this point, it may be helpful to look at the Annual Rates box in the left-hand column. This box shows the compound annual per share growth percentages for sales, “cash flow,” earnings, dividends and book value for the past 5 and 10 years and also Value Line’s projections of growth for each item for the coming 3 to 5 years. All rates of change are computed from the average number for a past 3-year period to an average number for the specified future period, which our analyst estimates. For details, see below.

Trends are important here. Check whether growth has been increasing or slowing and see if Value Line’s analyst thinks it will pick up or fall off in the future. Specific estimates for various data items for 3 to 5 years out can be found in **bold italics** print in the far right hand column of the Statistical Array (item 15 on the sample page).

<table>
<thead>
<tr>
<th>ANNUAL RATES of change (per sh)</th>
<th>Past 10 Yrs.</th>
<th>Past 5 Yrs.</th>
<th>Est’d ’10-’12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>7.5%</td>
<td>4.5%</td>
<td>5.5%</td>
</tr>
<tr>
<td>“Cash Flow”</td>
<td>9.5%</td>
<td>6.0%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Earnings</td>
<td>10.0%</td>
<td>5.5%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Dividends</td>
<td>12.5%</td>
<td>9.0%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Book Value</td>
<td>11.5%</td>
<td>9.5%</td>
<td>9.5%</td>
</tr>
</tbody>
</table>

Sample Annual Rates Box
(Also see item 23 on the sample page)

CALCULATING ANNUAL RATES OF CHANGE (GROWTH RATES)

In an attempt to eliminate short-term fluctuations that may distort results, Value Line uses a **three-year** base period and a **three-year** ending period when calculating growth rates. Investors often try to calculate a growth rate from one starting year to one ending year, and then can’t understand why the number they get is not the same as the one published by Value Line. If they used a three-year base period (2010-2012) and three-year ending period, (2016-2018), they would get the same results we do.

HISTORICAL FINANCIAL DATA
(26 on the sample page)

Many investors like to use the Statistical Array to do their own analysis. They, in particular, use the historical data in the center of each report to see how a company has been doing over a long time frame. It is worth pointing out that while all of the data are important, different readers find different data items to be most useful.

The numbers are probably most helpful in identifying trends. For example, look at sales per share to see if they have been rising for an extended period of time. Look at operating margins and net profit margins to see if they have been expanding, narrowing or staying flat. And examine some of the percentages near the bottom, such as the Return on Shareholders’ Equity, to see if they have been rising, falling, or remaining about the same.
All the company reports in *The Value Line Investment Survey* are grouped by industry, and at the front of each industry group is a one-page Industry Report.

The information contained in each Industry Report may differ considerably from one industry to another, but there is a general format we follow.

The number of industries followed in *The Value Line Investment Survey* is constantly changing. As companies drop out, usually because of mergers or acquisitions, we may discontinue an industry. On the other hand, as new industries develop, we add them.

**ANALYTICAL COMMENTARY**

Much of each page contains analytical commentary. The text in each report is written by a Value Line securities analyst, who normally also follows a number (sometimes as many as 10 or 12) of the companies in the industry.

The text normally includes comments about important developments in the industry and the impact those developments have been having on the companies. It also usually includes the analyst’s projections about the immediate and longer-term prospects for the industry. We always recommend that you read this report to get an idea of just what an analyst thinks about an industry.

**INDUSTRY TRENDS**

When purchasing a stock in a company, an investor should also know something about the industry in which a company is operating. Some important questions are:

- Is the industry growing?
- Are the industry’s operating and profit margins increasing or at least remaining steady?
- Stock prices
- Are the industry’s returns on total capital and shareholders’ equity rising or at least remaining steady?

The answer to these questions can usually be found in the analyst commentary. In most cases, if an industry’s trends are favorable, the operating conditions for the companies in that industry will also be favorable. If the industry trends are negative, the opposite may be true.

**COMPANY/INDUSTRY COMPARISONS**

When you are investing in a company, you should also know how that company is performing relative to its industry. A company’s size and operating performance
are both very important, and you should study them by looking at our individual company pages. However, you should also know if a company is well run. Some questions an investor should ask are:

- How does a company’s operating margin compare with its industry peer?
- How does a company’s net profit margin compare with its competitors?
- Are a company’s returns on total capital and on shareholders’ equity greater or less than others in the same sector?

If a company’s margins and returns are higher than its peers, the company is probably efficiently run. If the margins and returns are lower than most firms in the industry, the company is probably not being run as well as it could be.

**WARNING!** Many industries are dominated by one or two companies. When that is the case, company/industry comparisons may not be very useful. **Be careful when making company/industry comparisons to make certain the comparisons are meaningful.**

**INDUSTRY TIMELINESS**

At the top right of each industry report, we publish an INDUSTRY TIMELINESS rank on each of the approximately 100 industries we rank (excluding Investment Companies). These go in descending order from 1, which is the highest possible rank.

The first screen each week is Industries in order of Timeliness.

The Industry Timeliness ranks are calculated by averaging the Timeliness ranks of each of the stocks in a particular industry. If an industry has a large number of stocks ranked 1, the Industry Timeliness rank is likely to be high. If an industry has a large number of stocks ranked 5, the Industry rank is likely to be low.

The Industry ranks are updated weekly and published on the front cover and a subsequent inside page of the *Summary & Index*. You should always look in the *Summary & Index* to make certain you have the most recent numbers.

**RELATIVE STRENGTH CHART**

In the lower right corner of most industry reports is a relative strength chart going back for as many as seven years. Relative strength compares the price of the stocks in that industry over time with the price of the Value Line Composite Index of approximately 1,700 stocks. **When the relative strength line is rising, it means that the stocks in an industry are stronger than the broader market. When the line is falling, the stocks in an industry are weaker than the broader market.**
Long-term subscribers to *The Value Line Investment Survey* are often well aware of the basic tenets of investing and the many ways information can be used in *The Value Line Investment Survey*. However, they and many newer readers often have questions about material in the publication. Below are answers to those questions we receive most frequently.

**TIMELINESS RANKS**

**How do you determine the Timeliness rank, and what makes it change?**

Value Line’s *Timeliness Ranking System* ranks the approximately 1,700 stocks in our universe for relative price performance in the coming six to 12 months. At any one time, 100 stocks are ranked 1; 300 are ranked 2; approximately 900 are ranked 3; 300 are ranked 4; and 100 are ranked 5. In simple terms, *Timeliness* ranks [which go from 1 (Highest) to 5 (Lowest)] are determined by a company’s earnings growth and its stock’s price performance over a 10-year period relative to the 1700 stocks in *The Value Line Investment Survey*. A rank may change under three circumstances. The first is the release of a company’s earnings report. A company that reports earnings that are good relative to those of other companies may have its stock move up in rank, while a company reporting poor earnings could see its stock’s rank drop.

A change in the price of a stock can also cause a stock’s rank to change. A change in price carries less weight in our model than a change in earnings, but it is still an important determinant. Generally speaking, strong relative price performance is a plus, while negative relative price performance (relative to all other approximately 1,700 stocks) is a minus.

And finally, there is the “Dynamism of the Ranking System.” This phrase means that a stock’s rank can change even if a company’s earnings and stock price remain the same. That’s because a fixed number of stocks are always ranked 1, 2, etc. Every time one stock’s *Timeliness* rank moves up or down, another’s must also change. As an example, let’s suppose one company reports unusually good earnings, causing its stock’s *Timeliness* rank to rise from 2 to 1. Since there can be only 100 stocks ranked 1, some other stock must fall to a rank of 2, even though there may have been no change in its earnings or price.
Why do stocks with *Timeliness* ranks of 1 or 2 sometimes have below-average, long-term appreciation potential, and vice versa?

Probably the most important thing for all readers to know is that the time horizons for *Timeliness* ranks and for 3- to 5-year Projections are very different. Our Timeliness ranks are for the relative performance of stocks over the coming six to 12 months. Our forecast for long-term price potential is for 3 to 5 years. Because of the very different time periods, our forecasts for the two periods can be very different.

To provide a more specific answer, stocks ranked 1 or 2 for *Timeliness* often have been moving higher and often sell at high price/earnings ratios. While we think these stocks will continue to outperform other stocks in the Value Line universe during the next six to 12 months, it is unrealistic to think a stock’s price will keep moving up forever. At some point, earnings growth is likely to slow, at least somewhat, and our analysts try to be as realistic as possible in calculating the 3- to 5-year projections. If earnings growth slows in the future, a stock’s price/earnings ratio is likely to narrow, limiting the potential for appreciation in the stock’s price.

**Why do some stocks not have a Timeliness rank?**

Our computer-generated *Timeliness* ranks require at least two years of income statement and stock price history. If a stock has been trading for less than two years, possibly because a company is relatively new or because there was a major spinoff or acquisition, we are unable to assign a rank to it. We also suspend Timeliness ranks for unusual developments such as a merger offer or a bankruptcy filing.

**TECHNICAL RANK**

What exactly is the Technical rank?

The Technical rank uses a stock’s price performance over the past year to attempt to predict in our computer model short-term (three to six month) future returns. The stocks in our approximately 1,700-company universe are ranked in relation to all others on a scale of 1 (Highest) to 5 (Lowest). There are no other factors incorporated into the model. While our Technical rank does contribute to investment decisions, we would like to stress that our primary investment advice is based on our successful time-proven *Timeliness* and *Safety* ranks. The Technical rank is best used as a secondary investment criterion.

**EARNINGS**

Why does *Value Line* sometimes show different share earnings than those in a company’s annual report, or in *The Wall Street Journal*, or in a brokerage house report?

We each calculate earnings differently. In particular, Value Line typically excludes what we consider to be unusual or one-time gains or charges in order to show what we consider to be “normal” earnings.

Company earnings often contain one-time nonrecurring or unusual items, such as expenses related to the early retirement of debt, a change in accounting principles, restructuring charges, or a gain or loss on the sale of assets. In order to make a reasonable comparison of core operating results from one year to the next—or from one company to another—it is often necessary to exclude these items from reported earnings. Some items are relatively easy to take out because they are explicitly shown in the company’s income statement and footnotes. Others, however, must be estimated by our analysts. Any unusual adjustments to reported earnings will be disclosed in the footnotes of each Value Line report.

**OPERATING MARGIN**

What is an operating margin?

The operating margin shows operating income (earnings before the deduction of depreciation, amortization, interest, and income taxes) as a percentage of sales or revenues. Operating income is sometimes referred to as EBITDA.

**PRICE/EARNINGS RATIO**

Why does the Value Line price/earnings ratio often differ from that in *The Wall Street Journal* or brokerage reports?

All price/earnings ratios are calculated by dividing the recent stock price by 12 months of earnings. The different ratios occur because our analyst uses different 12-months earnings figures. Newspapers use 12-months trailing (i.e., reported) earnings. Value Line uses a total of the past six
months of trailing earnings and the next six months of estimated earnings. (In our view, this is the best method since it incorporates both recent history and a near-term forecast.) Your broker is likely to use a calendar year’s earnings. While we think our method is best, none is wrong. Just be sure that when you are comparing two companies’ P/E ratios, you are using the same methods.

**ABBREVIATIONS**

I have trouble understanding some of your abbreviations. Can you help me?

Yes. Most of the frequently used abbreviations are included in the online Glossary which is available at www.valueline.com.

**SELECTION & OPINION MODEL PORTFOLIOS**

How are stocks chosen for the Model Portfolios I, II, III, and IV in *Selection & Opinion*?

Each portfolio is dedicated to a different investment objective. To make it more attractive and useful to conservative investors, Portfolio II must hold stocks that are ranked at least 3 (Average) for Safety.

Portfolio I, Stocks with Above-Average Year-Ahead Price Potential, is based on Value Line’s well-respected Timeliness Ranking System. It is primarily suitable for investors who wish to take more risk in hopes of greater returns than might be afforded in Portfolios II or III. To qualify for purchase, stocks have to be ranked 1 (Highest) for Timeliness. To reduce portfolio turnover (and recognizing the fact that many good growth stocks go up and down in price along the way), a stock that drops a rank in Timeliness to 2 (Above Average) may remain in the portfolio, assuming that the company’s longer-term fundamentals remain sound. A stock that drops to 3 (Average) for Timeliness must be sold. We attempt to diversify the holdings as much as possible, but note that the Timeliness Ranking System tends to favor high earnings growth and more volatile issues that may cluster in a few industries.

Portfolio II, Stocks for Income and Potential Price Appreciation, attempts to combine our Timeliness Ranking System with an investment objective for above-average income. This portfolio is primarily suitable for more-conservative investors. To qualify for purchase, a stock’s yield (the estimated annual dividend for the next 12 months divided by the recent stock price) must be higher than the median yield for all approximately 1,700 stocks Value Line follows. The median is shown on the cover of the *Summary & Index* each week. The stock must also have a Timeliness rank of at least 3. The higher-than-average yields provide support to the shares in down markets. This portfolio tends to be less volatile because the companies, as a whole, are more likely to be mature and predictable.

Portfolio III, Stocks with Long-Term Price Growth Potential, is based on the fundamental research of our staff of research analysts. This portfolio is suitable for investors with a 5- to 5-year horizon; in terms of risk, it falls somewhere between Portfolios I and II. This portfolio tends to be the most flexible, allowing purchases of a broader array of companies. It is constructed under the principles of modern portfolio theory, which state that the risk of a portfolio should be viewed within the context of a portfolio as a whole, rather than judging the portfolio according to the average rankings of individual securities it holds. To that end, this portfolio is generally well diversified, comprising stocks in a variety of different non-related industries.

Portfolio IV focuses on stocks with above-average dividend yields. Investors with an interest in current income are likely to find interest here. Stocks selected for the portfolio must have a yield at least 1% above the median of all dividend-paying stocks tracked in *The Value Line Investment Survey*, a Timeliness rank of at least 3, and a strong Financial Strength rating. Although the analyst managing Portfolio 4 may sell a holding at any time, replacing it with a new stock with better prospects, any stock whose Timeliness rank falls below 4 is automatically replaced.

Despite the focus on dividend yield and current income, stocks are typically selected from a broad range of industries, providing a meaningful degree of diversification. The portfolio’s risk profile will likely be less than the broader market, given the usual concentration of low-Beta stocks.

The investment performance of all four portfolios is published quarterly in the *Selection & Opinion*. 
The Selected Investments section of Selection & Opinion has four portfolios. Why isn't there a “Conservative” portfolio?

Portfolio II, Stocks for Income and Potential Price Appreciation, is the one we would recommend for “conservative” investors. A key criterion for this portfolio is that the stocks have above-average dividend yields. These attractive yields lend support to stock prices when the market is declining. This portfolio usually also has slightly lower-than-market risk (volatility) as measured by the average Beta of the stocks within the portfolio.

How have the Model Portfolios done?
We publish the record periodically in Selection & Opinion. We also publish them on our Web site in the section called “About Value Line.”

FINANCIAL STRENGTH

What goes into the Financial Strength rating for each individual company?
Our Financial Strength ratings take into account a lot of the same information used by the major credit rating agencies. Our analysis focuses on net income, cash flow, the amount of debt outstanding, and the outlook for profits, and the stability of the industry and the individual company returns. Other factors also enter into the equation. For example, a company that faces the loss of patent protection on a key product might face a downgrade. The ratings range from A++ (Highest) to C (Lowest), in nine steps, based on the judgment of our senior staff members.

A STOCK’S 3- TO 5-YEAR PRICE PROJECTIONS

How are a stock’s 3- to 5-year share-price projections derived?
Our analysts have developed comprehensive spreadsheet models that take into account the current economic climate and a company’s operating fundamentals, including recent management initiatives, the actions of the competition, and many other relevant factors for each company. These models are used to develop our earnings and other financial projections for the coming 3 to 5 years.

The Target Price Range is calculated by multiplying a company’s estimated earnings per share for the period out 3 to 5 years (in the far right-hand column of the statistical array) by the stock’s projected average annual price/earnings ratio for the same period and then developing a range showing the likely high and low price. The width of the band of the share-price projections varies, depending on the Safety rank of the company. Riskier stocks have a wider band, safer stocks a narrower band.

STOCK DECLINES

I bought a stock based on your advice, but it went down. What happened?
As you undoubtedly know, our Timeliness Ranking System has worked extremely well over time. Not all stocks do as we forecast, though, and we have never suggested that they will. What we have strongly recommended is that you diversify your portfolio by purchasing at least 10 to 20 stocks across 10 or more industries. That way, you will protect yourself from unexpected changes in the price of any one stock or any one industry. Also keep in mind that the Value Line Ranking System is relative. In declining markets, group 1 and 2 stocks have historically declined less than the general market. On the other hand, stocks ranked 1 and 2 have outperformed the market during periods when stock prices were rising.

SPEAKING TO ANALYSTS

I would like to speak to the Analyst who wrote a report.
Unfortunately, this isn’t practical. Our staff of analysts has been hired and trained to analyze stocks and write commentaries for The Value Line Investment Survey and, to be fair to all subscribers, they do not have time to provide personalized advice or information.
PRETAX INCOME

Where can I find pretax income on a Value Line page?

You can’t. We do, however, show net profit after taxes (usually line 14 in the Statistical Array) and the effective tax rate (usually line 15). You can calculate pretax income by dividing net profit by: 1 minus the tax rate. Example: If net profit was $100 million and the tax rate was 36%, pretax profit would be $156.25 million.

$100,000,000

1.00 - .36

= $156,250,000

ERRORS IN REPORTS

What should I do if I find an error in a report?

If you think you have found an error in any of our publications, we would very much like to hear from you so that we can correct the mistake. Please write or call us. If you call, let the operator know that you want to report an apparent error, and he/she will connect you with an administrative assistant in the Research Department. Please address your written comments to the office of the Research Director, or e-mail us at VLIS@valueline.com.

If you believe you have found an error in an historical price or per-share data item, please read on:

We actually receive very few complaints about our data. Most of those that we do get relate to historical prices and per-share data, and the fact is that our stock prices, earnings, and other data are usually correct. When there appears to be a difference in stock prices or earnings per share, it is usually because of a stock split or a stock dividend. Value Line and everyone else retroactively adjusts historical stock prices and share data for stock splits and dividends. Splits and dividends of 10% or more are shown in the Legends box in the upper left hand corner of the price chart. Splits of less than 10% are shown in the footnotes.

COMPANY COVERAGE

Does a company pay to be included in The Value Line Investment Survey?

No. Value Line is not compensated for coverage by the companies under our review. Subscribers can be assured that we are totally objective when we analyze companies in The Value Line Investment Survey.

Does the roster of stocks covered by Value Line change?

Yes. Vacancies constantly occur within our approximately 1,700 stock universe. Sometimes a company’s earnings will deteriorate to such a degree that we believe investors have lost interest. If that happens, we will discontinue coverage. More frequently, companies leave our universe when they are acquired by or merged with another firm. Acquired or merged companies will be replaced by others. In choosing replacements, we try to select actively traded stocks with broad investor interest.

Why isn’t ABC, Inc., a large well-known company, included?

We do try to include companies with actively traded stocks, which have broad public interest. If ABC fits in this category, we will, in all likelihood, provide coverage in the future.

GROWTH RATES

How are the growth rates calculated in the Annual Rates of change box?

We use a compound annual rate that reflects the annual change for various items over the entire period being computed. All rates of change are computed from the average figure for a past 3-year period to an average for a future 3-year period, as established by our analyst.

<table>
<thead>
<tr>
<th>ANNUAL RATES of change (per sh)</th>
<th>Past 10 Yrs.</th>
<th>Past 5 Yrs.</th>
<th>Est’d ’10-’12 to ’16-’18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>7.5%</td>
<td>4.5%</td>
<td>5.5%</td>
</tr>
<tr>
<td>“Cash Flow”</td>
<td>9.5%</td>
<td>6.0%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Earnings</td>
<td>10.0%</td>
<td>6.5%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Dividends</td>
<td>12.5%</td>
<td>9.0%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Book Value</td>
<td>11.5%</td>
<td>9.5%</td>
<td>9.5%</td>
</tr>
</tbody>
</table>

Sample Annual Rates Box
(Also see item 23 on the sample page)
TIMELINESS OF INFORMATION

When can I expect to receive updates of your information?

Our intention is for subscribers to receive *The Value Line Investment Survey* in print generally on Friday or Saturday. Unfortunately, circumstances beyond our control may cause later delivery.

To guarantee that subscribers have access to key information including the latest ranks at the same time, such data are released to subscribers through our Value Line Web site at 8:00 A.M. Eastern time each Monday. All subscribers to any version of *The Investment Survey* (print or online) have access to the latest key data each Monday for 24 hrs until 8:00 A.M. Eastern on Tuesday.
### TimeLine

<table>
<thead>
<tr>
<th>YEAR</th>
<th>REVENUE</th>
<th>PROFIT</th>
<th>EARNINGS PER SHARE</th>
<th>DIVIDEND ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>92.00</td>
<td>16.70</td>
<td>3.30</td>
<td>0.25</td>
</tr>
<tr>
<td>1999</td>
<td>94.10</td>
<td>17.90</td>
<td>3.57</td>
<td>0.25</td>
</tr>
<tr>
<td>2000</td>
<td>96.20</td>
<td>19.10</td>
<td>3.83</td>
<td>0.25</td>
</tr>
<tr>
<td>2001</td>
<td>98.30</td>
<td>20.30</td>
<td>4.09</td>
<td>0.25</td>
</tr>
<tr>
<td>2002</td>
<td>100.40</td>
<td>21.50</td>
<td>4.35</td>
<td>0.25</td>
</tr>
<tr>
<td>2003</td>
<td>102.50</td>
<td>22.70</td>
<td>4.61</td>
<td>0.25</td>
</tr>
<tr>
<td>2004</td>
<td>104.60</td>
<td>23.90</td>
<td>4.87</td>
<td>0.25</td>
</tr>
<tr>
<td>2005</td>
<td>106.70</td>
<td>25.10</td>
<td>5.13</td>
<td>0.25</td>
</tr>
<tr>
<td>2006</td>
<td>108.80</td>
<td>26.30</td>
<td>5.39</td>
<td>0.25</td>
</tr>
<tr>
<td>2007</td>
<td>110.90</td>
<td>27.50</td>
<td>5.65</td>
<td>0.25</td>
</tr>
<tr>
<td>2008</td>
<td>113.00</td>
<td>28.70</td>
<td>5.91</td>
<td>0.25</td>
</tr>
<tr>
<td>2009</td>
<td>115.10</td>
<td>30.00</td>
<td>6.17</td>
<td>0.25</td>
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<tr>
<td>2010</td>
<td>117.20</td>
<td>31.30</td>
<td>6.43</td>
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</tr>
<tr>
<td>2011</td>
<td>119.30</td>
<td>32.60</td>
<td>6.69</td>
<td>0.25</td>
</tr>
<tr>
<td>2012</td>
<td>121.40</td>
<td>33.90</td>
<td>6.95</td>
<td>0.25</td>
</tr>
<tr>
<td>2013</td>
<td>123.50</td>
<td>35.20</td>
<td>7.21</td>
<td>0.25</td>
</tr>
<tr>
<td>2014</td>
<td>125.60</td>
<td>36.50</td>
<td>7.47</td>
<td>0.25</td>
</tr>
<tr>
<td>2015</td>
<td>127.70</td>
<td>37.80</td>
<td>7.73</td>
<td>0.25</td>
</tr>
<tr>
<td>2016</td>
<td>129.80</td>
<td>39.10</td>
<td>7.99</td>
<td>0.25</td>
</tr>
</tbody>
</table>

### Value Line Stock Ratings

- **A-** Strong Buy
- **B+** Buy
- **B-** Hold
- **S** Sell
- **X** Avoid

<table>
<thead>
<tr>
<th>RECOMMENDATION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BUY</strong></td>
<td>2016</td>
</tr>
</tbody>
</table>

### Financial Highlights

- **Revenues**: $129.80 billion (2016)
- **Net Income**: $39.10 billion (2016)
- **Earnings Per Share**: $7.99 (2016)
- **Dividend**: $0.25 (2016)

### Historical Performance

- **Deutsche Bank**: Buy
- **JPMorgan**: Neutral
- **Morgan Stanley**: Buy

### Market Capitalization

- **Market Cap**: $259 billion (Large Cap)
- **Common Stock**: 2,818,073,863 shares
- **Price**: $18.42 per share

### Business Description

Johnson & Johnson is a diversified health care company with a broad range of products and services in consumer, medical devices, pharmaceuticals, and professional services. The company operates through three segments: Consumer, Medical Devices, and Pharmaceutical Products.

### Key Metrics

- **ROE**: 20.95%
- **ROA**: 13.5%
- **EPS Growth**: 9.9%
- **Dividend Yield**: 2.0%
- **Beta**: 0.80
- **Price/Book**: 2.70

### Dividend History

- **Dividends Per Share**: $1.21 (2016)
- **Dividend Payout Ratio**: 50%

### Major Shareholders

- **Vanguard**: 4.2%
- **BlackRock, Inc.**: 3.9%
- **State Street Corp.**: 3.2%

### Risk Rating

- **Beta**: 0.70
- **S&P 500 Beta**: 1.0

### Key Ratios

- **P/E Ratio**: 20.95
- **Price/Sales**: 13.5%
- **Debt to Equity**: 2.70

### Target Price Range

- **Target Price**: $16.18

### Analysts' Opinions

- **Freq.**: Daily
- **Opinion**: Buy

### Conclusion

Johnson & Johnson continues to outperform the market. The company has a strong record of earnings growth and a solid dividend yield. This stock remains a strong buy for the long term.