



Value Line®

Definitive Guide

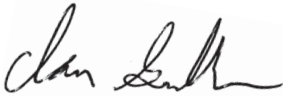
The Value Line
Ranking System

A LETTER FROM IAN GENDLER

Investors need to have unbiased and independent research. That is something Value Line subscribers have known for some 80 years. Value Line has no investment banking business with any company, including the approximately 1,700 companies our analysts follow in The Value Line Investment Survey.[®] Unlike typical Wall Street brokerage firms, Value Line does not execute trades for its subscribers and, therefore, has no vested interest in whether these subscribers buy, sell, or hold a specific equity. Our staff of professional securities analysts are not permitted to own shares of a company that they are assigned to cover. Our subscribers receive only the highest quality of unbiased and independent research.

If you are looking for unbiased, independent, and objective investment research and ideas, look no further than Value Line—we answer only to you.

Very truly yours,



Ian Gendler

Executive Director, Value Line Research

The Value Line® Ranking System

The *Value Line Investment Survey*® is probably most famous for its time-honored Ranking System for *Timeliness*™, which ranks approximately 1,700 stocks relative to each other for price performance during the next six to 12 months, and *Safety*™, an overall measure of risk. The Value Line *Technical Rank* is designed to predict stock price movements over a three to six month time period. In each case, stocks are ranked from 1 to 5, with 1 being the Highest ranking.

Note: Any one Value Line stock rank is always relative to the ranks of all other stocks in the Value Line universe of approximately 1,700 stocks.

TIMELINESS

The Value Line Timeliness Rank measures predicted relative 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). Components of the *Timeliness Rank* include such items as the trend of relative earnings and prices, 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 of the approximately 1,700 stocks for the six to 12 months ahead. The Value Line universe of 1,700 stocks accounts for approximately 90% of the market capitalization of all stocks traded on the U.S. exchanges.

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).

Rank 2 (Above Average): These stocks, as a group, are expected to have better-than-average relative price performance (300 stocks). Since many stocks “stop in” at Rank 2 before moving up to 1, some investors’ strategy is to select equities from among Rank 2 and Rank 1.

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). They — and even Rank 4 stocks — may be considered if purchased for long-term income.

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

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

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

Changes in the Timeliness ranks can be caused by:

1. New earnings reports or company announcements
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

Value Line’s Timeliness Rank Record

The *Value Line Ranking System for Timeliness* has been operating essentially in its present form since 1965. Its exemplary record has attracted the attention of academicians and has been the subject of numerous articles in scientific and financial journals.

Our performance record is discussed here and shown in the graphs on pages 5 and 6. The first shows that through November 29, 2013 our 1-ranked stocks had appreciated 48,338%* (before commission costs and before dividends) between April 16, 1965 and November 29, 2013. That compared with a gain of 1,664% for the Dow Jones Industrial Average. That is, if you consistently owned the one hundred stocks ranked number one out of the total of approximately 1,700, the portfolio, as a whole, would have outperformed the Dow Jones Industrial Average by more than 46,000 percentage points.

The second graph shows that if you bought all of our 1-ranked stocks at the end of December of each year, held them until the end of December of the next year, and repeated this process, the portfolio would have risen 28,001%** since 1965. These are records we believe nobody else has ever matched.

Making Changes Weekly

Value Line has been calculating changes in the *Timeliness Ranking System* on a weekly basis for some 48 years. The record of weekly performance is outstanding and is shown in the chart and table on page 5. There you can see just how stocks ranked 1, 2, 3, 4, and 5 for Timeliness have done, assuming that all rank changes were implemented each week.

What you can see is that there have been spectacular results for stocks in Groups 1 and 2. Stocks ranked 1 or 2 for *Timeliness*

cannot be expected to outperform the market in every single week, month, or year. But over a longer period, the expectation that they will do so as a group is consistent with our actual results.

Making Annual (Once a Year) Changes

Most investors do not buy and sell stocks every week. Doing so could result in large commission costs and a material tax liability, not to mention the time and effort such frequent trading requires. For these reasons, we have also regularly published a record of the results of annual changes in the *Timeliness Ranking System*. In what we call the “Frozen Record,” we assume that investors buy stocks on the last business day of each year and hold them until the last day of the next year. Here, too, the top groups have consistently surpassed the growth of the other groups, as can be seen on page 6.

SAFETY

A second and crucial 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 from 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 given 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.

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, many of which regularly pay cash dividends; 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 that 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.

Value Line’s Safety Rank Record

Safety becomes particularly important in periods of stock market downswings, when many investors want to try to limit their losses. As with *Timeliness*, the record of *Safety* over the years is impressive. When you study the data (shown in the table on page 4), you will find that stocks with high *Safety* ranks generally fall less than the market as a whole when stock prices drop. The table shows how the *Safety* ranks worked out in all major market declines between 1972 and the present.

The lesson is clear. If you think the market may be headed lower, but prefer to maintain a fully invested position in stocks, concentrate on stocks ranked 1 or 2 for *Safety*. Also, at the same time, try to keep your portfolio ranked as high as possible for *Timeliness*. You may not choose to limit yourself to only stocks ranked high on both counts. You then must decide which is more important—price performance over the next six to 12 months, or *Safety*. We suggest Safety Rank 3 stocks with decent Financial Strength can sensibly be considered.

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 grade. 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.

High Value Line *Timeliness* ranks give some protection against a general market decline, but only over a period of six to 12 months. They cannot be relied upon to help protect against a sharp drop in the stock market in every week or month, 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 that relates price trends of different durations for a stock during the past year to the relative price changes of the same stock over

*Allowing for Changes in Rank each week — geometric averaging

**Allowing for Annual Changes in Rank — arithmetic averaging

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 based on the *Timeliness* ranks of each of the stocks that have been assigned a *Timeliness* rank in a particular industry.

VALUE LINE INDEXES

On June 30, 1961, we introduced the Value Line Composite Index. This widely recognized market benchmark assumes equally weighted positions in every stock covered in *The Value Line Investment Survey*, excluding the closed-end funds. That is, it is assumed that an equal dollar amount is invested in each and every stock. The returns from doing so are averaged geometrically every day across all these stocks in *The Value Line Investment Survey* and, consequently, this index is frequently referred to as the Value Line (Geometric) Average (VALUG). It was intended to provide a rough approximation of how the median stock in the Value Line universe performed.

On February 1, 1988, Value Line began publishing the Value Line (Arithmetic) Average (VALUA) to fill a need that had been conveyed to us by subscribers and investors. Like the VALUG, the VALUA is equally weighted. The difference is the mathematical technique used to calculate the daily change.

The VALUA provides an estimate of how an equal-dollar weighted portfolio of stocks will perform. Or, put another way, it tracks the performance of the average, rather than the median, stock in our universe. It can be shown mathematically, for all practical purposes, that the daily percentage price change of the VALUA will always be higher than the VALUG. The systematic understatement of returns of VALUG is a major reason that the VALUA was developed. Moreover, although the differences between daily price changes may seem small, the magnitude of the annual differential between the two averages can be very large. The greater the market volatility, the larger the spread between the geometric and arithmetic averages becomes.

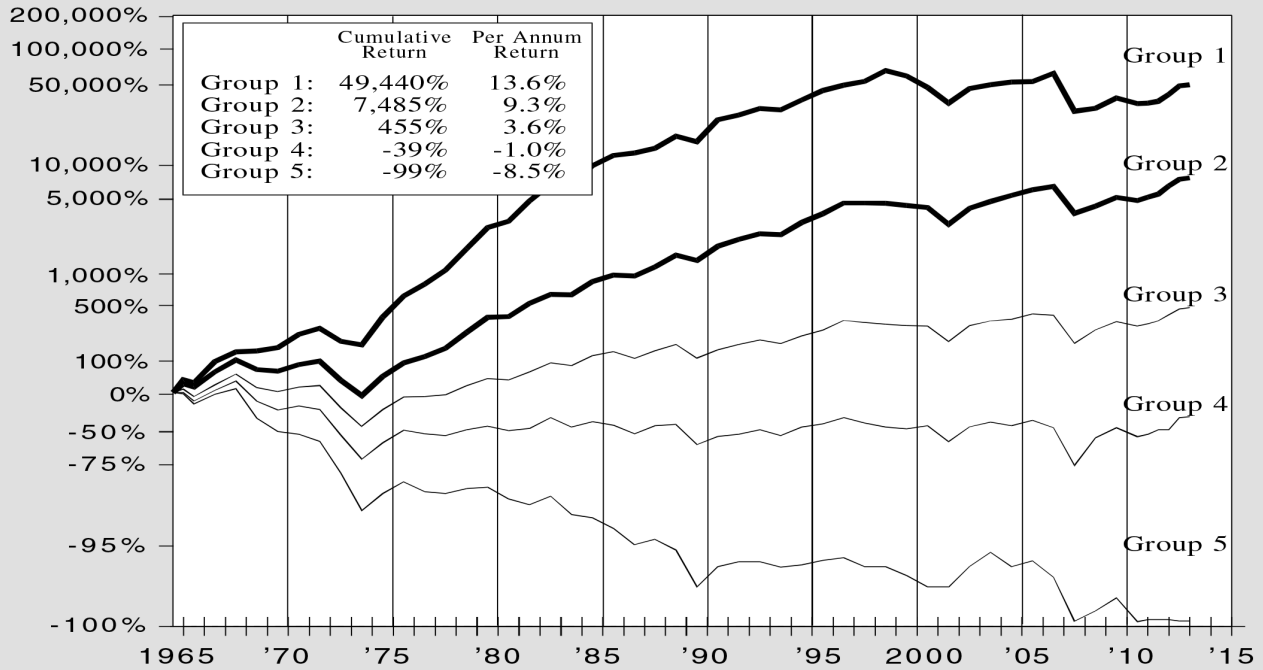
In 1965, when the current Timeliness Ranking System was developed, our only market average was the VALUG, so we scored the ranks on a geometric basis. This allowed us to compare the performance of the ranks versus the market (as measured by the VALUG). After we started the VALUA, we began scoring the ranks both on a geometric and arithmetic basis.

Results of Safety Ranks in major market declines

Safety Rank	4/14/72– 9/11/74	6/17/81– 8/11/82	8/26/87– 12/4/87	7/13/90– 11/2/90	4/22/98– 10/08/98	5/22/01– 9/21/01	4/16/02– 10/9/02	5/5/06– 6/13/06	10/9/07– 1/22/08	6/5/08– 3/9/09
Group 1	-40.5%	-10.5%	-24.7%	-19.0%	-6.1%	-11.5%	-20.8%	-5.1%	-13.3%	-32.5%
Group 2	-39.9	-16.2	-28.7	-15.5	-14.0	-14.0	-23.8	-5.9	-17.4	-42.0
Group 3	-47.2	-25.2	-36.0	-24.9	-29.7	-23.4	-33.1	-11.7	-19.6	-53.2
Group 4	-53.3	-33.6	-40.7	-33.2	-41.7	-41.7	-55.2	-17.1	-25.9	-61.1
Group 5	-70.0	-31.4	-46.9	-33.1	-37.8	-34.3	-51.7	-19.5	-25.6	-67.0

Record of Value Line Rank for Timeliness

Allowing for Changes in Rank Each Week (1965 - 2013)



RECORD OF VALUE LINE RANKS FOR TIMELINESS (ALLOWING FOR CHANGES IN RANK EACH WEEK)[†]

April 16, 1965 to December 31, 2013

Group	'65*	'66	'67	'68	'69	'70	'71	'72	'73	'74	'75	'76	'77	'78	'79	'80	'81	'82	'83	'84
1	28.8%	-5.5%	53.4%	37.1%	-10.4%	7.3%	30.6%	12.6%	-19.1%	-11.1%	75.6%	54.0%	26.6%	32.6%	54.7%	52.6%	13.6%	50.6%	40.9%	-2.1%
2	18.5	-6.2	36.1	26.9	-17.5	-3.2	13.7	7.4	-28.9	-29.5	47.4	31.2	13.4	18.3	38.0	35.7	1.8	31.0	19.1	-0.8
3	6.7	-13.9	27.1	24.0	-23.8	-8.0	9.3	3.5	-33.6	-34.1	40.7	29.0	1.3	3.0	20.7	15.4	-3.3	17.9	20.2	-5.6
4	-0.4	-15.7	23.8	20.9	-33.3	-16.3	8.4	-7.1	-37.9	-40.6	39.3	28.8	-6.9	-3.8	12.8	7.4	-8.7	5.1	25.0	-17.4
5	-3.2	-18.2	21.5	11.8	-44.9	-23.3	-5.5	-13.4	-43.8	-55.7	40.9	26.7	-17.6	-3.2	10.4	2.9	-21.4	-10.9	19.0	-31.0

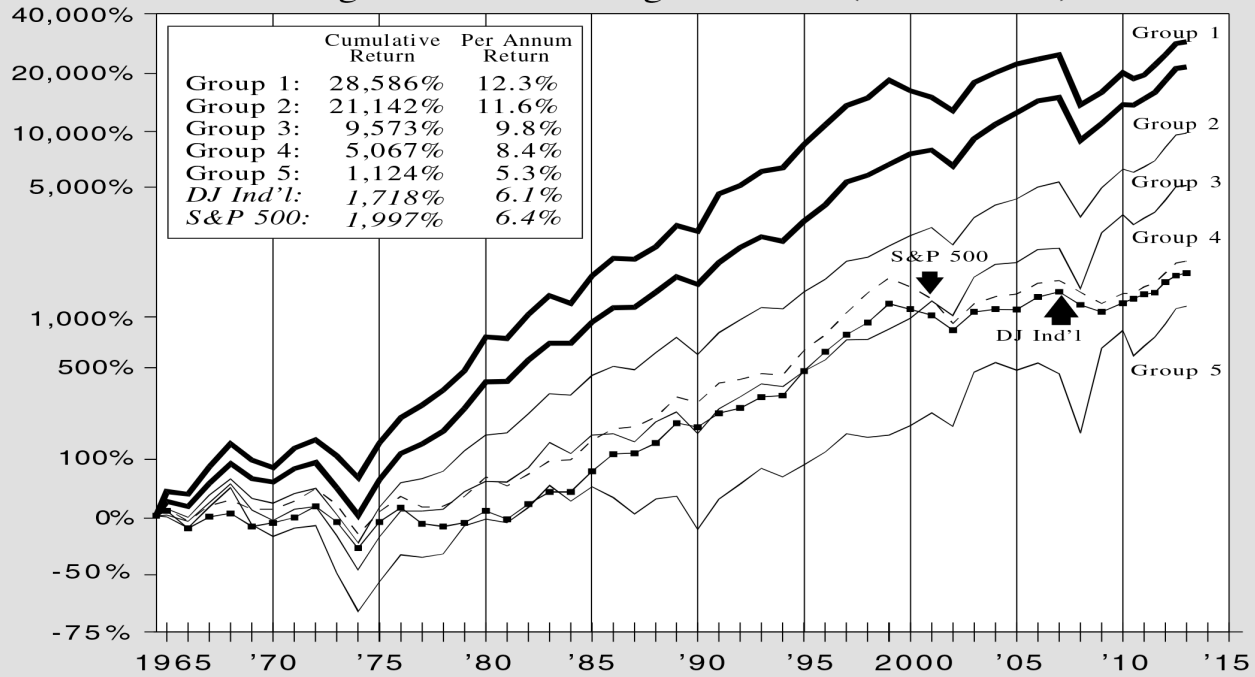
Group	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04
1	47.0%	22.9	5.4%	9.5%	27.9%	-10.4%	55.4%	10.0%	13.4%	-2.6%	22.8%	20.4%	11.3%	8.2%	24.1%	-10.4%	-20.3%	-27.2%	33.8%	8.4%
2	30.7	14.4	-2.4	20.4	26.5	-10.2	34.1	14.3	12.4	-2.2	28.1	19.0	24.0	0.1	-0.5	-4.4	-3.8	-28.8	38.2	14.5
3	22.8	7.7	-12.6	16.1	13.7	-24.4	18.9	11.0	9.8	-6.9	16.6	12.3	21.5	-3.9	-3.3	-3.2	-0.8	-27.1	38.2	10.5
4	11.4	-6.8	-15.8	17.6	2.6	-33.7	16.7	6.2	8.5	-9.9	17.1	7.1	14.5	-11.0	-7.5	-3.7	5.9	-26.7	34.2	9.4
5	-5.6	-19.6	-28.0	11.4	-19.2	-45.5	25.5	15.4	0.3	-15.2	5.2	7.5	16.6	-11.5	-1.3	-19.7	-7.2	-15.7	52.2	15.2

Group	'05	'06	'07	'08	'09	'10	'11	'12	'13	'65* to 2013
1	5.6%	0.7%	18.2%	-53.4%	15.9%	23.0%	-11.2%	5.0%	39.9%	49,440%
2	12.9	12.1	6.6	-41.6	19.7	19.4	-5.6	13.8	38.3	7,485
3	3.6	11.3	-2.6	-43.5	23.7	18.8	-8.7	11.3	30.9	455
4	-6.7	11.8	-14.3	-53.8	40.1	21.1	-15.7	13.8	30.6	-39
5	-12.6	7.8	-28.0	-73.3	38.7	26.9	-36.6	4.5	28.2	-99

*April through December
† Geometric Averaging

Record of Value Line Ranks for Timeliness

Allowing for Annual Changes in Rank (1965 - 2013)



RECORD OF VALUE LINE RANKS FOR TIMELINESS (ALLOWING FOR ANNUAL CHANGES IN RANK)†

April 16, 1965 to December 31, 2013

Group	'65*	'66	'67	'68	'69	'70	'71	'72	'73	'74	'75	'76	'77	'78	'79	'80	'81	'82	'83	'84
1	33.6%	-3.1%	39.2%	31.2%	-17.7%	-8.9%	26.5%	10.1%	-17.1%	-23.1%	51.6%	35.3%	15.8%	19.8%	25.6%	50.2%	-1.9%	33.7%	25.2%	-8.6%
2	18.9	-6.0	31.9	26.3	-16.3	-4.0	17.4	7.5	-26.2	-27.8	53.0	36.3	12.7	16.1	30.8	37.4	0.7	29.0	22.2	-0.1
3	8.9	-9.7	30.1	21.4	-20.7	-5.5	12.2	6.2	-27.0	-28.5	52.9	33.8	5.2	9.2	27.6	20.8	2.7	25.5	26.7	-1.6
4	0.8	-7.2	25.1	25.1	-26.8	-11.7	14.2	3.2	-29.1	-33.6	48.4	36.1	-0.2	2.4	23.1	13.2	-0.9	18.1	35.2	-12.3
5	-1.2	-12.4	28.4	25.9	-35.7	-13.1	10.5	2.9	-43.1	-36.8	42.1	38.2	-2.8	4.0	39.9	8.4	-4.2	19.9	30.0	-17.1
Avg.	10.1	-7.9	29.9	24.6	-22.1	-7.5	14.9	5.5	-27.7	-29.6	51.2	35.1	5.8	9.6	28.0	23.4	0.9	25.0	27.5	-4.7
Group	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04
1	38.6%	23.5%	-1.2%	16.0%	28.7%	-6.6%	56.7%	10.1%	18.5%	4.6%	31.3%	27.0%	25.8%	9.3%	23.7%	-11.7%	-7.4%	-15.0%	40.1%	12.2%
2	29.5	18.7	0.4	19.7	20.3	-8.7	29.8	19.9	13.6	-5.3	27.1	21.4	31.3	8.5	13.9	13.2	4.8	-17.3	37.9	18.8
3	26.6	11.5	-4.1	23.2	19.6	-18.6	30.0	17.5	15.3	-1.6	22.8	16.1	24.1	4.8	14.5	13.0	10.2	-18.8	38.6	15.8
4	24.6	1.5	-9.1	27.2	12.4	-22.8	34.1	15.6	16.5	-2.9	20.2	14.3	26.6	0.6	13.5	14.0	23.3	-16.2	58.2	16.5
5	18.7	-12.1	-17.9	20.0	3.3	-33.0	43.8	19.9	20.3	-9.3	15.7	15.8	24.4	-4.0	2.8	11.6	16.4	-14.5	90.1	12.3
Avg.	27.0	10.2	-4.9	22.6	17.8	-17.6	33.4	17.3	15.7	-2.6	23.2	17.4	26.1	4.4	14.0	11.4	11.0	-17.5	45.4	16.0
Group	'05	'06	'07	'08	'09	'10	'11	'12	'13	'65* to 2013										
1	11.3%	5.7%	5.4%	-45.0%	16.0%	26.4%	-6.7%	17.2%	32.4%	28,586%										
2	15.0	15.6	3.9	-40.1	22.4	25.4	-0.5	16.3	35.2	21,142										
3	7.8	15.2	6.4	-34.2	41.5	24.9	-3.4	14.4	39.5	9,573										
4	2.4	16.7	1.4	-38.2	95.0	23.6	-10.8	15.6	37.6	5,067										
5	-8.7	9.1	-12.0	-50.9	175.4	23.8	-26.1	24.9	45.4	1,124										
Avg.	7.3	14.6	3.7	-38.0	55.5	24.8	-5.7	15.8	38.3	10,013										

* April through December

† Arithmetic Averaging

Dow Jones Industrials 1,718%

S&P 500 1,997%



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