Journal Of Financial And Strategic Decisions
Volume 10 Number 2 Summer 1997

AN ANALYSIS OF VALUE LINE'S ABILITY TO FORECAST LONG-RUN RETURNS

Gary A. Benesh* and Steven B. Perfect*

Abstract

Value Line's success in predicting short-term stock price movements via its timeliness rankings is widely publicized. Evidence pertaining to the accuracy of Value Line's long-run (3- to 5-year) stock return forecasts is scarce. Here, we assess the accuracy of these long-run forecasts over two non-overlapping five year periods. The findings indicate that for these periods the forecasts were of little use in discriminating how stocks actually perform over the subsequent five years.

INTRODUCTION

During the last three decades, Value Line has developed a reputation as one of the premier investment advisory services. Its prominence in the industry is, at least, partly attributable to its demonstrated ability in predicting short-term stock price movements. Starting in 1981, Value Line also began providing forecasts of average annual returns over the long run, namely the next three to five years for each stock. The purpose of this paper is to assess the accuracy of Value Line's long-run return forecasts, and the usefulness of these forecasts to investors.

Prior academic research has focused on Value Line's timeliness rankings which purportedly measure probable stock price performance over the next six to twelve months. The approximately 1700 stocks covered by Value Line are given a timeliness rank of from one (the best) to five (the worst), which are updated weekly. Figures provided by Value Line [9] indicate that a portfolio consisting of all rank one stocks (with weekly rebalancing as necessary) experienced a higher percentage change in price than equivalent portfolios for the other rankings, in 23 out of the 26 years between 1965 and 1990. Similarly, a comparable portfolio made up of all rank five stocks, was characterized by the lowest percentage price change in 24 of the 26 years. Over the entire 26-year period, the total percentage change for the rank one portfolio is reported as 15,641 percent, versus minus 98 percent for the rank five portfolio.

These results appear quite impressive. They suggest that properly formulated investment strategies based on Value Line's rankings may be capable of producing excess returns. Both Black [2] and Copeland and Mayers [5] assess the annual excess returns that could be earned from taking a long position in rank one stocks and a short position in rank five stocks. Black, using a Capital Asset Pricing Model based performance evaluation technique, and monthly rebalancing of the portfolio to account for changes in the ranks, finds that this strategy results in a twenty percent annual excess return before transactions costs. Copeland and Mayers use the standard market model paradigm and returns subsequent to the period of analysis to establish a benchmark, and with a semiannual rebalancing scheme find annual excess returns of 6.8 percent before transactions costs. Here the excess return is almost entirely associated with the rank five portfolio. Holloway [7] examines a buy-and-hold strategy and an active strategy. The buy-and-hold strategy forms a portfolio of all rank one stocks at the beginning of the year and holds them for the entire year. The active strategy rebalances the portfolio weekly so as to maintain a portfolio comprised entirely of rank one stocks throughout the year. In the absence of transactions costs, both strategies produce excess returns. When reasonable transactions costs are considered, the buy-and-hold strategy still produces annual excess returns of about 8.6 percent annually, while the active strategy's excess returns are eroded by trading costs.

*Florida State University

Affleck-Graves and Mendenhall [1] provide a possible explanation for the excess returns associated with Value Line's timeliness rankings. They show that significant differences in the returns of stocks that moved up to the top rank and stocks that moved down to the bottom rank exist only when the rank changes are preceded by earnings announcements that differ substantially from forecasted earnings. For rank changes preceded by either a small or no earnings surprise, the performance of the stocks moving to the top rank did not differ in a statistical sense from the stocks moving to the bottom rank. They conclude that "the Value Line enigma is a manifestation of post-earnings-announcement drift."

VALUE LINE'S LONG-RUN RETURN FORECASTS

Value Line has developed a mathematical model to make 3- to 5-year price projections for individual stocks. These projections are utilized along with estimates of annual dividend yields to arrive at estimates of annual returns over the next three to five years. The components of the 3- to 5-year model are referred to by Value Line as the stock's (1) current earnings rank, (2) current price rank, and (3) estimated future earnings rank. The current earnings rank of a stock is a direct function of how that company's latest relative earnings compare to its relative earnings over the last ten years. Similarly, the current price rank is a direct function of how the company's latest relative price compares to its relative prices over the last ten years. Both of these measures are incorporated into Value Line's timeliness rankings as well.

The estimated future earnings rank is the most critical input to the long-term price projection model. To obtain this rank for each company, Value Line first divides its 3- to 5-year earnings forecast for a company by the average 3- to 5-year earnings forecasts for all 1700 companies. Then the company's most recent ratio is compared to the ratios for the last ten years to arrive at a ranking from one to ten. For example, if the ratio is higher at present than in any of the past ten years, the ranking would be a ten, while if it is the lowest over the ten year period, the ranking would be a one.

Value Line, employing data from 1965 to 1980, conducted a cross-sectional multiple regression analysis using the above variables along with actual changes in relative prices three to five years later to arrive at a model for estimating future relative price changes. The estimates of future relative price changes from this model are combined with Value Line's projected stock market environment for three to five years hence to arrive at absolute price forecasts. Finally, these forecasts are used in conjunction with forecasted dividend yields to arrive at a "low" and a "high" projected annual return over the next three to five years. [8]

Value Line cautions investors against relying solely on its long-run price projections when making investment decisions because of the model's heavy dependence on the accuracy of long run earnings forecasts. They state:

> The model is not meant to supplant the Timeliness Ranking which is geared to discriminate over a 12-month period without dependence upon earnings estimates. It can, however be used in conjunction with the Timeliness Ranking System by favoring stocks with high appreciation potential that also carry favorable Timeliness Rankings. Because of the risks in making accurate earnings forecasts 3 to 5 years out, appreciation potentialities should *never* be the dominant consideration in making investment decisions. The new approach yields price projections that should be used only as supplements to the Timeliness Ranks, even if you are long-term oriented in your investment horizon. [8]

We are unaware of any studies that have assessed Value Line's accuracy in forecasting long-run earnings either in absolute or relative terms. There is reason to be optimistic, however, as several studies have shown that Value Line's analysts can forecast short-term earnings more accurately than sophisticated time-series models (e.g. see Brown & Rozeff [3] and Brown, Hagerman, Griffin and Zmijewski [4]).

In the following section, the data and methodology are described. This is followed in Section IV with the presentation of the results, and Section V contains concluding comments.

DATA AND METHODOLOGY

Value Line updates its company reports on a quarterly basis. The information for this study is obtained from the thirteen weekly publications of the Value Line Investment Survey Ratings and Reports published during the fourth

quarter of 1982 and 1988, respectively. This selection enables an analysis of Value Line's ability in forecasting long-run returns over the two most recent, non-overlapping five-year periods for which return data are available.

All firms for which Value Line provides the necessary estimates, and that have the necessary returns on the CRSP tapes are included in the samples subjected to testing. The sample sizes vary from test to test as described below because of different information requirements.

Figures 1 and 2 provide frequency distributions for both Value Line's annual return projections over the next three to five years and the actual annual returns over the same period. Specifically, the midpoint of Value Line's low and high long-run return projections for each company is compared with its actual geometric mean annual return over the next four years. The frequency distributions for the forecasts and actual returns are plotted on the same graph to facilitate comparisons. For both 1982 (Figure 1) and 1988 (Figure 2), it appears that Value Line was overly optimistic in its long-run return forecasts. The frequency of the Value Line forecasts in the 15 to 30 percent range is considerably higher than the number of firms that actually experience such returns, while the number of firms with negative actual returns is far greater than that being forecast by Value Line.[1] The difference in the number of predicted versus actual negative returns can be partly explained by the use of the midpoint of Value Line's low and high long-run forecast as the predicted value. However, we do not observe an excess of actual versus predicted returns for very high return levels.

FIGURE 1
1982 Value Line Predictions

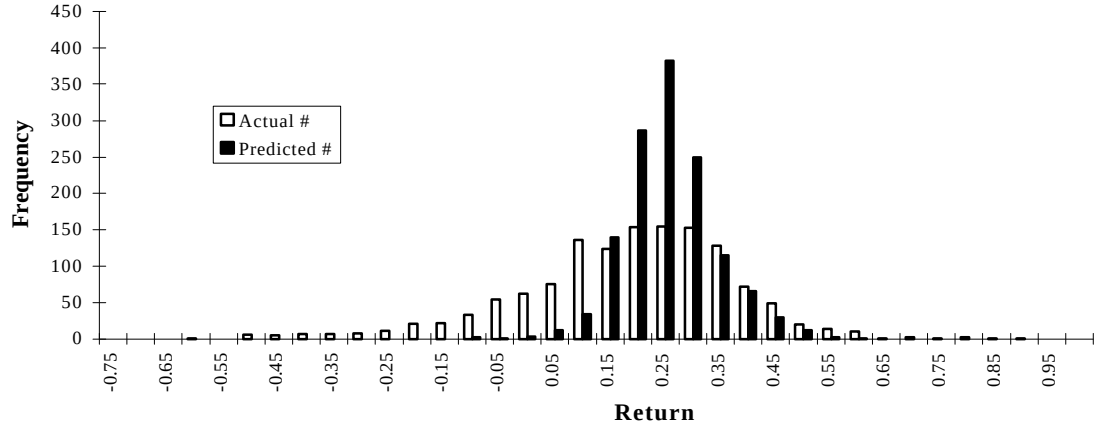
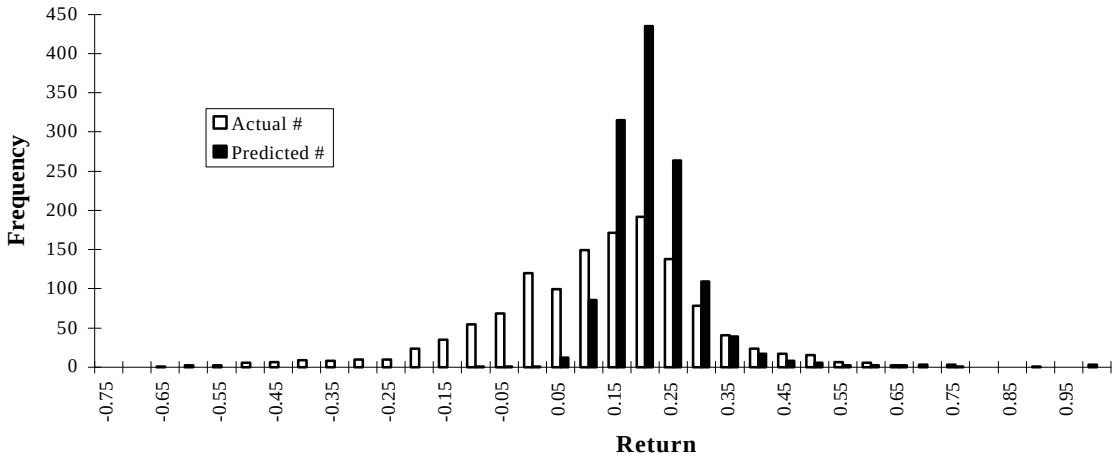


FIGURE 2
1988 Value Line Predictions



To assess Value Line's ability to forecast long-run returns, we first use OLS regression techniques to estimate the series of equations:

Equation 1

$$R_i = a_0 + a_1\beta_i + a_2 LNSIZE_i + a_3 MPAR_i + \varepsilon_i \text{ for } i = 1 \text{ to } N,$$

where:

R_i = geometric average annual return for firm i over one year, two years, three years, four years, or five years, respectively,
β_i = stock *i*'s estimated β as provided by Value Line,
$LNSIZE_i$ = the natural logarithm of the market value of the firm's equity as of the Value Line publication date, and
$MPAR_i$ = the midpoint of the high and the low long-run annual return estimate for company i as provided by Value Line.

Equation (1) is estimated for holding periods of one, two, three, four and five years, respectively. In other words, the dependent variable (R_i) varies across regressions, while the independent variables remain the same. The geometric mean annual return is used to calculate R_i when the return interval exceeds one year. The time period used in calculating R_i for a given company begins one calendar week after the date of the Value Line publication in which that company appears. This procedure ensures that "announcement date" effects will not influence the results. Note that the results of the statistical tests do not differ in a material fashion when R_i is calculated with the Value Line publication date as the starting point.

As mentioned above, Value Line suggests that its long-term projections are not meant to be used in isolation, but rather in combination with the timeliness rankings. Thus, we estimate a second series of equations:

Equation 2

$$R_i = b_0 + b_1\beta_i + b_2 LNSIZE_i + b_3 MPAR_i + \sum_{t=1}^{4} b_t + 3^d{}_t + \varepsilon_i,$$

where,

$d_1 = 1$ if $TIM = 1$ and 0 otherwise,
$d_2 = 1$ if $TIM = 2$ and 0 otherwise,
$d_3 = 1$ if $TIM = 4$ and 0 otherwise,
$d_4 = 1$ if $TIM = 5$ and 0 otherwise,

and all other variables are as defined above.

The coefficients on the dummy variables are estimated to determine if timeliness rankings help in explaining the cross-sectional variation in long-run returns. If they do in the predicted fashion, the coefficients on d_1 (b_4) and d_2 (b_5) should be positive and statistically significant, indicating that stocks that have timeliness rankings of either 1 or 2, tend to be characterized by higher long-run returns than those with a ranking of 3. Similarly, the coefficients on d_3 (b_6) and d_4 (b_7) should be negative and statistically significant, indicating that stocks with timeliness rankings of 4 or 5 do not perform as well in the long run as stocks with a ranking of 3.

EMPIRICAL RESULTS

The number of companies included in a given regression depends upon the length of time over which R_i is calculated.[2] Information pertaining to the return interval and the sample size is provided below in Table 1.

TABLE 1
Number Of Firms Included In Each Regression:

R_i	1982 VL Forecasts	1988 VL Forecasts
1-YR	1577	1462
2-YR	1505	1394
3-YR	1428	1357
4-YR	1343	1324
5-YR	1249	1294

The results from estimating equation (1) are provided in Panel's A and B of Table 2. Panel A contains the results obtained when using the Value Line reports from the fourth quarter of 1982, while Panel B presents similar information for the fourth quarter of 1988.[3]

A priori, we hypothesize a positive relationship between actual returns and β ($a_1 > 0$) and an inverse relationship between actual returns and firm size ($a_2 < 0$). The results are contrary to expectations. In the five cases where a_1 is statistically significant (four times for the 1982 sample and once for the 1988 sample), it is less than zero. Similarly, in eight of the nine return intervals (R_i) for which the size variable is significant, the coefficient (a_3) is positive, indicating a direct relation between actual returns and size during the period of analysis.[4] These results appear surprising especially considering stock returns were generally quite high over the periods analyzed, but they are generally consistent with the evidence provided by Fama and French [6] for the period, 1981-1990. Using a different methodology, Fama and French find a significant inverse relationship between cross-sectional returns and betas, and no significant relationship between returns and size during this period (Table AIV - Panel B). Also, our results may be partially attributable to the fact that we do not update β's and firm size periodically.[5]

TABLE 2
Regression Results

$$R_i = a_0 + a_1\beta_i + a_2 LNSIZE_i + a_3 MPAR_i + \varepsilon_i$$

Panel A: Results using VL forecasts from 4th quarter of 1982

R_i	a_0	a_1	a_2	a_3	Adj. r^2	F-stat
1-yr	1.029*	0.014	-0.058*	-0.012	.03	16.38*
	(8.96)	(0.30)	(-6.90)	(-0.09)		
2-yr	0.367*	-0.199*	0.000	-0.126***	.06	30.32*
	(6.56)	(-8.81)	(0.06)	(-1.77)		
3-yr	0.365*	-0.242*	0.008**	-0.249*	.12	68.56*
	(7.38)	(-12.14)	(2.14)	(-3.95)		
4-yr	0.403*	-0.275*	0.008**	-0.254*	.18	97.21*
	(8.67)	(-14.75)	(2.40)	(-4.24)		
5-yr	0.162*	-0.218*	0.016*	-0.041	.15	76.64*
	(3.90)	(-13.11)	(5.16)	(-0.75)		

TABLE 2
Regression Results

$$R_i = a_0 + a_1\beta_i + a_2 LNSIZE_i + a_3 MPAR_i + \varepsilon_i$$

Panel B: Results using VL forecasts from 4th quarter of 1988

R_i	a_0	a_1	a_2	a_3	Adj. r^2	F-stat
1-yr	-0.029	-0.054	0.030*	-0.251***	.02	10.71*
	(-0.30)	(-1.21)	(4.43)	(-1.75)		
2-yr	-0.222*	-0.137*	0.035*	-0.275*	.08	38.72*
	(-3.40)	(-4.46)	(7.38)	(-2.73)		
3-yr	-0.126**	-0.025	0.021*	-0.077	.02	10.43*
	(-2.13)	(-0.88)	(5.04)	(-0.82)		
4-yr	-0.044	0.010	0.012*	-0.062	.01	4.70**
	(-0.91)	(0.42)	(3.49)	(-0.81)		
5-yr	0.003	0.011	0.009*	-0.037	.01	3.57**
	(0.07)	(0.56)	(3.08)	(-0.58)		

*, **, and *** indicate significance at the .01 level, .05 level and .10 level, respectively.

The primary relationship of interest here is that between actual security returns and the midpoint of Value Line's long-run return forecast ($MPAR_i$). If Value Line is able to forecast long-run returns after adjusting for risk, then the coefficient, a_3, should be positive and statistically significant. The preliminary results from Table 2 are not encouraging, as a_3 is negative in each of the five years it is statistically significant. These findings suggest that Value Line's long-run return forecasts were of little use to investors during the periods analyzed. However, as discussed earlier, Value Line clearly states that its long-run forecasts should not be used in isolation, but rather in combination with the timeliness rankings.

The results obtained from estimating equation (2), which incorporate timeliness rankings, are provided in Panel's A and B of Table 3. With minor exceptions, the conclusions pertaining to the relationships between actual returns and β, firm size and Value Line's long-run return forecasts, respectively, are as discussed for equation (1). The b_3 coefficient, which corresponds to a_3 in Table 2, is negative and statistically significant (though the t-statistics are somewhat lower) for only three return intervals as opposed to five in Table 2.

The coefficient estimates on the dummy variables provide some support for Value Line's contention that long-term oriented investors may be wise to consider the timeliness rank of stocks. The coefficient, b_4, is always positive, and it is statistically significant in six of the ten regressions reported in Table 3. These results indicate that stocks with a timeliness ranking of 1, tend to be characterized by higher long-run returns than stocks ranked three. Similarly, the negative and statistically significant b_7 coefficients indicate that ranked five stocks tend to have lower long-run returns than ranked three stocks.[6] Though the results are not as strong, statistically significant differences that exist between the performance of ranked two and ranked three stocks (b_5), and ranked four and ranked three stocks (b_6) always have the predicted sign.

The evidence provided above suggests that Value Line's long-run return forecasts are, at best, of limited use to investors. However, it is possible that there is relevant information in Value Line's long-run forecasts that is not detected via the regression analysis reported in Tables 2 and 3. Recall that the primary variable of interest, *MPARi*, is the midpoint of Value Line's low and high forecast for firm *i*. We observe that there is a considerable range in these forecasts for many firms. It is possible that the use of the midpoint of the forecasts obscures relevant information in the forecasts.

TABLE 3
Regression Results

$$R_i = b_0 + b_1\beta_i + b_2 LNSIZE_i + b_3 MPAR_i + \sum_{t=1}^{4} b_{t+3} d_t + \varepsilon_i$$

Panel A: Results using VL return forecasts from 4th quarter of 1982

R_i	b_0	b_1	b_2	b_3	b_4	b_5	b_6	b_7	Adj. r^2	F-stat
1-yr	1.006*	0.009	-0.055*	-0.054	0.055	-0.038	0.058***	0.004	.03	8.05*
	(8.68)	(0.18)	(-6.44)	-(0.35)	(1.08)	(-1.18)	(1.75)	(0.08)		
2-yr	0.368*	-0.201*	-0.000	-0.106	0.034	-0.009	0.003	-0.016	.05	13.44*
	(6.49)	(-8.81)	(-0.12)	(-1.41)	(1.37)	(-0.57)	(0.21)	(-0.64)		
3-yr	0.377*	-0.243*	0.005	-0.172*	0.046**	0.012	-0.021	-0.047**	.13	31.33*
	(7.58)	(-12.13)	(1.43)	(-2.59)	(2.10)	(0.84)	(-1.45)	(-2.14)		
4-yr	0.420*	-0.274*	0.005	-0.167*	0.037***	0.004	-0.029**	-0.076*	.19	45.08*
	(9.04)	(-14.63)	(1.50)	(-2.65)	(1.80)	(0.28)	(-2.10)	(-3.60)		
5-yr	0.176*	-0.216*	0.014*	0.017	0.007	-0.001	-0.018	-0.070*	.16	35.14*
	(4.21)	(-12.89)	(4.41)	(0.29)	(0.41)	(-0.13)	(-1.47)	(-3.59)		

Panel B: Results using VL return forecasts from 4th quarter of 1988

R_i	b_0	b_1	b_2	b_3	b_4	b_5	b_6	b_7	Adj. r^2	F-stat
1-yr	0.002	-0.084***	0.029*	-0.168	0.096**	0.006	-0.029	-0.078***	.02	6.11*
	(0.02)	(-1.83)	(4.28)	(-1.15)	(2.28)	(0.21)	(-1.03)	(-1.75)		
2-yr	-0.203*	-0.160*	0.034*	-0.224**	0.053***	0.025	-0.010	-0.047	.08	17.89*
	(-3.07)	(-5.02)	(7.22)	(-2.18)	(1.85)	(1.30)	(-0.54)	(-1.54)		
3-yr	-0.114***	-0.051***	0.021*	-0.032	0.058**	0.057*	0.006	-0.022	.03	6.76*
	(-1.90)	(-1.75)	(4.88)	(-0.34)	(2.22)	(3.28)	(0.35)	(-0.80)		
4-yr	-0.046	-0.005	0.012*	-0.041	0.052**	0.041*	0.017	0.000	.01	3.79*
	(-0.94)	(-0.21)	(3.44)	(-0.53)	(2.43)	(2.89)	(1.20)	(0.000)		
5-yr	0.001	0.004	0.009*	-0.026	0.026	0.017	0.008	-0.002	.01	2.05**
	(0.02)	(0.22)	(3.07)	(-0.40)	(1.44)	(1.41)	(0.71)	(-0.13)		

*, **, and *** indicate significance at the .01 level, .05 level, and .10 level, respectively.

To examine this possibility, portfolios are constructed so that the long-run return forecasts of the securities included in one portfolio do not overlap with the forecasts for the securities in the other portfolio. For example, only securities for which Value Line's *low* long-run return forecast is fifteen percent or greater are included in one portfolio. Securities for which Value Line's *high* long-run return forecast is fifteen percent or less are included in the second portfolio. Division points of 17.5 percent, 20 percent, 22.5 percent and 25 percent are also used when forming the two sample portfolios to assess whether the results are sensitive to the division point. The geometric mean annual returns for periods ranging from one to five years are calculated for each portfolio and a standard t-test is used to assess whether there is a difference in the mean returns on each pair of portfolios characterized by non-overlapping long-run return forecasts.

TABLE 4
A Comparison Of Return Performance On Portfolios With Nonoverlapping Long-Run Return Forecasts

Panel A: Results using VL return forecasts from the 4th quarter of 1982

		VL's Mean Long-Run Return Forecasts (%)				R_i = the average of the geometric mean annual returns (%) over *i* years for all companies in the sample (n_i)									
Port.	**n**	**LOW**	**MID**	**HIGH**	**β**	n_1	R_1	n_2	R_2	n_3	R_3	n_4	R_4	n_5	R_5
LOW ò 15.0%	1045	21.8	27.6	33.3	1.00	1025	38.2	979	13.3	941	14.4	878	15.3	822	11.3
ò HI	75	2.2	6.9	11.5	0.96	72	32.2	72	9.0	67	12.7	64	12.2	59	8.3
LOW ò 17.5%	795	23.6	29.5	35.4	1.02	781	38.0	743	12.5	713	13.1	661	13.8	609	10.6
ò HI	130	4.8	9.2	13.6	0.93	127	31.9	127	12.2	118	15.5	114	15.3	105	9.3
LOW ò 20.0%	603	25.2	31.3	37.4	1.04	593	39.4	560	11.6	537	11.8*	497	12.6*	454	9.9
ò HI	251	7.3	11.8	16.3	0.95	242	37.0	233	14.9	218	18.6	211	18.2	198	11.5
LOW ò 22.5%	355	28.1	34.6	41.0	1.07	347	41.7	329	10.7*	314	9.5*	288	9.6*	257	7.9*
ò HI	367	8.7	13.3	18.0	0.95	356	35.9	341	15.0	322	18.2	311	18.9	293	12.2
LOW ò 25.0%	257	29.9	36.5	43.2	1.08	251	41.5	239	9.5*	228	8.7*	210	8.8*	182	7.9*
ò HI	589	10.8	15.5	20.2	0.95	576	35.8	555	15.1	521	18.4	500	19.5	474	13.1

*The mean returns for the two portfolios are statistically different at the .05 level of significance.

Panel B: Results using VL return forecasts from the 4th quarter of 1988

		VL's Mean Long-Run Return Forecasts (%)				R_i = the average of the geometric mean annual returns (%) over *i* years for all companies in the sample (n_i)									
Port.	**n**	**LOW**	**MID**	**HIGH**	**β**	n_1	R_1	n_2	R_2	n_3	R_3	n_4	R_4	n_5	R_5
LOW ò 15.0%	532	20.3	26.4	32.5	1.15	518	18.5	488	-5.6*	472	7.1	457	8.9	441	10.6
ò HI	172	5.3	9.0	12.7	0.87	168	19.2	162	2.5	157	8.2	156	8.6	154	9.9
LOW ò 17.5%	311	23.3	29.9	36.4	1.19	302	14.1	281	-10.5*	268	4.2*	258	6.6	246	8.4
ò HI	294	6.5	10.4	14.3	0.90	286	20.5	278	3.1	272	8.5	269	8.8	266	10.2
LOW ò 20.0%	217	25.5	32.4	39.3	1.21	210	11.3*	194	-12.7*	182	4.1*	174	6.3*	166	9.1
ò HI	492	8.0	12.1	16.2	0.92	479	23.3	462	3.3	453	9.6	447	10.0	442	11.3
LOW ò 22.5%	126	28.8	36.2	43.6	1.25	120	6.2*	110	-14.6*	101	3.6*	95	6.2*	91	9.7
ò HI	681	8.9	13.3	17.7	0.95	664	24.0	637	2.4	622	9.5	612	10.6	604	11.7
LOW ò 25.0%	89	31.0	39.0	47.0	1.25	86	4.4*	79	-20.0*	72	1.0*	66	4.2*	62	9.2
ò HI	903	9.9	14.6	19.2	0.99	882	22.8	849	0.9	832	9.1	820	10.4	810	11.7

*The mean returns for the two portfolios are statistically different at the .05 level of significance.

The results from this analysis are provided in Panels A and B of Table 4. The portfolio construction rule is provided in the first column, followed by the number of companies that are included in each portfolio. For example, during the fourth quarter of 1982, Value Line projected a 3- to 5-year annual return of 15 percent or more for 1045 companies, and 15 percent or less for 75 companies. The means of Value Line's low and high long-run return forecasts, along with the mean of the average of the low and high forecasts (*MID*), are provided for each portfolio. For each pair of portfolios considered, the mean of the *low* long-run return forecasts for the companies in one portfolio is always considerably higher than the mean of the *high* long-run forecasts for the companies in the other portfolio. In other words, Value Line's long-run return forecasts for the companies in one portfolio are always considerably higher than those for the companies in the matching portfolio.

Significant statistical differences in the mean returns of portfolios representing low and high long-run forecasts, respectively, are found in ten of the twenty-five cases examined when the 1982 forecasts are used, and in fifteen of twenty-five cases when the 1988 forecasts are used.[7] In each case where a significant difference is detected, the portfolio consisting of the companies with lower long-run forecasts has a higher mean return than the portfolio consisting of companies with high long-run forecasts. In other words, it appears that on average, companies with relatively low long-run return forecasts were characterized by higher long-run returns.

For the 1982 Value Line forecasts, dividing the long-run forecasts according to whether they are higher or lower than 22.5 percent results in portfolios of approximately the same size (355 vs. 367 companies). For these portfolios, the mean returns over two, three, four and five years, are significantly higher for the portfolio with the companies characterized by lower low long-run return forecasts. For the 1988 forecasts, dividing the forecasts according to whether they are above or below 17.5 percent results in portfolios of similar size (311 vs. 294 companies). Here the mean returns over two and three years are significantly higher for the portfolio comprised of companies with the lower long-run return forecasts.

The above results are generally consistent with those from the regression analysis. In both cases, the evidence indicates that for the periods analyzed, Value Line's long-run return forecasts could not be used to identify which stocks were likely to perform well over the next one to five years.

CONCLUSION

Several studies have documented Value Line's ability to forecast short-run stock returns via their timeliness rankings. Since, Value Line also forecasts long-run stock returns, a question of obvious interest to investors is how accurate are these long-run forecasts? It seems reasonable that buy-and-hold oriented investors may very well regard these easily interpretable long-run return forecasts among the most important information provided by Value Line. Here we examine whether Value Line exhibits similar abilities when forecasting long-run stock returns. Specifically we assess the accuracy of Value Line's 3- to 5-year return forecasts from the fourth quarters of 1982 and 1988, respectively. For the periods studied, the relationship between subsequent actual returns and Value Line's forecasts was inverse whenever it was statistically significant.

As noted earlier, Value Line cautions investors against using its long-run return forecasts as the dominant consideration in making investment decisions. The evidence presented here suggests that investors may be wise to heed this warning.

ENDNOTES

1. Similar conclusions apply when actual geometric mean returns are calculated over either three or five year periods.

2. The sample sizes for the 1-YR results for both 1982 and 1988 do not include all companies covered by Value Line because timeliness rankings and beta estimates are not available for some firms. The sample size becomes smaller as the length of the return interval increases primarily as a result of mergers and delistings. A separate analysis of firms that drop out of the sample over the five years indicates that the results for these firms are similar to those for the sample as a whole.

3. These are not all independent cases since the one year returns are incorporated into two year returns, the two year returns are incorporated into the three year returns, etc. The results from the 1982 forecasts are independent of those from the 1988 forecasts, however.

4. Though the independent variables are collinear to some extent (for 1982 and 1988, respectively, $r_{\beta,LNSIZE}$ = -.10 and -.10; $r_{\beta,MPAR}$ = .19 and .38; and $r_{LNSIZE,MPAR}$ = -.13 and -.18), the regression results are not materially affected by collinearity. Specifically, the sign of the coefficient on each independent variable in every regression is nearly always the same as the sign of the simple correlation between the independent variable and the dependent variable in the regression equation. Thus, the sign-switching that frequently occurs when multicollinearity is extreme, does not appear to be a problem here. In addition, the variance inflation factor never exceeds 1.42, and is generally less than 1.1.

5. Since the dependent variable in the regressions is a long-run return measure, updating β's and *LNSIZE* is not feasible. Note, however, that even if it were possible, it would not be appropriate to do so as the question of interest is whether Value Line's long-run return forecasts (not updated values of β and *LNSIZE*) explain the cross-sectional variability in actual long-run returns.

6. The Value Line timeliness rank results reviewed earlier in the paper are only moderately supported by the one-year results in Table 3. There are a couple of reasons for this. In 1983 the average annual returns of stocks ranked four or five at the beginning of 1983 were higher than the corresponding average returns for stocks ranked one, two or three at the beginning of the year. Recall, our methodology does not incorporate updated timeliness rankings as do some of the earlier studies discussed. In 1989, the stocks ranked one at the beginning of the year had an average annual return of 28.7 percent versus 19.6 for stocks ranked three, and 3.3 percent for rank five stocks [9]. Thus the timeliness effect is quite prevalent for this year, even with no allowance for changes in the ranks. But recall that our methodology examines whether the one-year returns for stocks with rankings other than three differ systematically from the one year returns for rank three stocks. In other words, we are not directly comparing the performance of rank one stocks with rank five stocks as is typically done in other studies. If such a comparison were conducted, the timeliness effect would be much more apparent for the one year results using the 1988 forecasts.

7. As with the regression results, the results for a given set of forecasts are not independent since the one year returns are incorporated into two year returns, the two year returns are incorporated into the three year returns, etc. The results for the 1982 forecasts are independent of those for the 1988 forecasts, however.

REFERENCES

[1] Affleck-Graves, John, and Richard R. Mendenhall, "The Relation Between the Value Line Enigma and Post-Earnings-Announcement Drift," *Journal of Financial Economics* 31, February 1992, pp. 75-96.

[2] Black, Fischer, "Yes, Virginia, There is Hope: Test of the Value Line Ranking System," *Financial Analysts Journal* 29, September/October 1973, pp. 10-14.

[3] Brown, Lawrence D., and Michael Rozeff, "The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings," *Journal of Finance* 33, March 1978, pp. 1-16.

[4] Brown, Lawrence D., Robert L. Hagerman, Paul A. Griffin, and Mark E. Zmijewski, "Security Analyst Superiority Relative to Univariate Time Series Models in Forecasting Quarterly Earnings," *Journal of Accounting and Economics* 9, 1987, pp. 61-87.

[5] Copeland, Thomas E., and David Mayers, "The Value Line Enigma (1965-1978): A Case Study of Performance Evaluation Issues," *Journal of Financial Economics* 10, November 1982, pp. 289-322.

[6] Fama, Eugene F., and Kenneth R. French, "The Cross-Section of Expected Stock Returns," *Journal of Finance* 47, June 1992, pp. 427-465.

[7] Holloway, Clark, "A Note on Testing Aggressive Investment Strategy Using Value Line Ranks," *Journal of Finance* 36, June 1981, pp. 711-19.

[8] Value Line, 1982, "How to Use the Value Line Investment Survey: A Subscriber's Guide," by Arnold Bernhard, Research Chairman, Value Line Investment Survey.

[9] Value Line, 1991, How to Use the Value Line Investment Survey: A Subscriber's Guide: A Practical Guide to Better Investing. Value Line Publishing, Inc.