A LAZY INVESTOR'S GUIDE TO OUTPERFORMING THE MARKET*

by

William R. Reichenstein, Larry Jeske
and Mark H. Schwiesow

Empirical studies from the 1960s and 1970s produced considerable evidence that the stock market is highly efficient in the sense that stock prices fully reflect publicly-available information. Investment strategies that are based on such information cannot outperform the market on a risk-adjusted basis. Several recent studies summarize a growing list of empirical evidence that the stock market may not be as efficient as we once believed.¹ Three widely acclaimed areas of apparent inefficiency that predate the test period in this study include the low P/E effect², the small firm effect³, and the incomplete incorporation of information in Value Line Timeliness rankings.^{4,5}

The intent of this paper is to encourage tests of the viability of simple investment strategies designed for small investors that utilize some combination of these inefficiencies. In this paper, we examine one such strategy that combines the low P/E and Timeliness inefficiencies. In April, 1977 the Value Line Timely Stocks list of the 10 rank 1 stocks began to include P/E ratios⁶ and industry rankings for each stock. By looking at a single page, an investor could quickly select a portfolio consisting of stocks with the desired characteristics. Our test period for the strategy begins in April 1977 and progresses to January, 1984. We arbitrarily decided to use both a five and ten stock portfolio as representative of a small investor's portfolio. To provide diversification for the small portfolio, the investor is assumed to select the stock from different industries. For the ten stock portfolio, for example, the investor is assumed to select one stock from each of the first ten industries in the Value Line Industry Rankings. If one of the top ten industries is not represented in the Rank 1 listings, the investor moves to industry 11, and then 12, etc. If an industry is represented by more than 1 firm, the investor is assumed to select the firm with the lowest P/E ratio because of evidence predating the test period that suggests low P/E stocks outperform the market.⁷ Finally, following the first January issue of the Value Line Investment Survey, the investor is assumed to sell the ten stocks and invest the proceeds equally among the new stocks as dictated by the aforementioned selection process.

The returns from this low P/E, ten stock investment strategy will be compared with the returns from the two benchmarks--the returns on the Standard and Poor's 500 Composite Index and the

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risk-adjusted expected returns from the Jensen performance evaluation technique. The comparisons are valid because a typical strategy for a small investor is to invest in an equity fund, perhaps one emulating the S&P 500, and be assured of returns approximately equal to the returns on the Composite Index. The benchmark returns will also be compared with the returns on a low P/E, five stock portfolio where the five stock strategy is completely analogous to the ten stock strategy.

In addition, we will also examine the returns from similar strategies, except that the investor is assumed to choose the highest P/E ratio stock for industries represented by more than one stock on the Timely Stock list. The resulting high P/E, ten stock and high P/E, five stock portfolios will hopefully provide a crude method of separating the importance of the Timely Stock Rank 1 listing and the effect of preferentially selecting low P/E securities.

Prior Research

There has been considerable variation in the excess return estimates from previous studies of the low P/E effect or variants thereof. In separate studies, Basu (1975 and 1977) estimates annual excess returns on the lowest quintile of stocks in two broad samples of 3.5 percent for the 1956-69 period and 4.67 percent for the April 1957-March 1971 period. Goodamn and Peavy (1983) study the importance of P/E relatives (calculated as a firm's P/E divided by the industry average P/E) on stock returns in three large industries for the period 1970 to mid-1980. Using the Jensen portfolio evaluation technique, they found excess returns on the lowest quintile of P/E relative stock to vary from 10.89 percent on a quarterly adjusted portfolio to 6.01 percent on a yearly adjusted portfolio.

Some researchers have wondered whether the low P.E, small firm, and neglected firm⁸ effects may not be measuring the same pricing anomaly; there is a significant correlation between firms's P/E's, their size, and the institutional interest in their stock. Recent evidence suggest that these effects represent separate pricing anomalies, since their effects continue to exist after adjustments for the other factors.⁹ However, this information was not known at the beginning of the time period tested in this study and is thus ignored in the stock selection process.

There have been several studies examining the record of the Value Line ranking system. The most famous of the studies that predate the test period was performed by Fisher Black (1973). He examined the returns record of a hypothetical equally weighted portfolio consisting of all 100 Rank 1 stocks. The portfolio was revised as necessary each month. The purchases were assumed to be made at the close of the market on Friday (the day most subscribers receive their reports). For a five year period ending in 1970, he found risk-adjusted excess returns on Rank 1 stocks (calculated by the Jensen portfolio evaluation technique) to be about 10 percent per year before transaction costs.

In studies since the beginning of the test period, Clark

Holloway (1981) extends Blacks's work by comparing the returns records from a yearly-adjusted Rank 1 buy-and-hold strategy and the 1700 stock Value Line "market index." He reports 8.6 percent higher annual returns after transaction costs on the buy-and-hold strategy compared to the market index for the April 1965 to December 1978 period. This translates into an approximate 12.2 percent higher annual return before transaction costs.¹⁰ Furthermore, he found no indication that the results were attributable to a failure to adjust for risk. In another study since the beginning of the test period, Copeland and Mayers (C&M) (1982) estimate risk-adjusted excess returns on Rank 1 stocks of 3.06 percent or less for the almost identical period, November 26, 1965 to February 3, 1978. These excess returns are insignificant and generally insufficient to cover reasonable transaction costs. However, there are reasons to suspect these results.¹¹ C&M's risk adjustment procedure requires the separation of their six month test period from the future benchmark estimation periods. The authors state, "This separation leads to the most worrisome of the problems we encounter because it forces us to assume that [Value Line's predictive ability does not extend beyond the six month test period]."

Methodology

Our study differs from the previous Value Line studies in two important respects. First, the previous studies are primarily concerned with testing the consistency of the Value Line record with the semi-strong efficient markets hypothesis. Comparatively little attention, at best, is given to portfolios containing less than the complete set of Rank 1 stocks. In contrast, our study is designed a priori for the small investor. We are concerned with the amount of time an investor must spend monitoring the portfolio, since the opportunity cost of time spent monitoring investments can be very high. We opted for an extremely simple strategy that combines apparent inefficiencies, yet requires less than an hour of work per year. Second, the ability of the Value Line ranking system to outperform the market has not been studied for the period since 1978. The stock market may have adjusted to the Value Line rankings and, in so doing, eliminated the excess returns attributable to the ranking system. It is therefore important to update the studies of the Value Line rankings to include the most recent years.

The approximate returns net of transaction costs and taxes from the small portfolio strategies and a S&P-based index fund strategy will be compared for the test period. The index fund can have substantially lower transaction costs and other advantages relative to the small portfolios. The tax system favors the taking of long-term gains and short-term losses. We can quickly ascertain the approximate after-tax returns from a slightly altered strategy of taking the losses short and holding the gains for a year and a day, thus representing long-term gains for the period studied in this paper. It is certainly reasonable to assume that an investor will hold stocks perhaps a day or two longer to take advantage of the long-term gains tax

treatment. The final returns after these adjustments provides an estimate of the after-tax, after transaction costs returns that would have prevailed for the small investor following the basic investment strategies.

Finally, Kaplan and Weil (1973) suggest that changes in the Value Line rankings may be so quickly incorporated into security prices that only a few subscribers will be able to buy the stock before the price adjusts. To avoid this potential conflict and to continue our emphasis on a simplistic investment strategy, we assume that transactions occur at the closing prices on the subsequent Monday. Even our lazy investor should find a few minutes to complete the investment strategy between Friday and Monday afternoon.

Results

Returns Before Transaction Costs and Taxes

Table 1 presents the summary statistics for the four portfolio strategies formed by combining the low or high P/E strategies into five or ten stock portfolios. The low P/E portfolio strategies are the strategies that could have been hypothesized from the literature before the beginning of the test period and thus deserves special attention. The geometric mean return for the April 11, 1977 to January 9, 1984 period for the low P.E, ten stock portfolio strategy is 24.85 percent. This compares with a geometric mean return of the S&P 500 of 13.55 percent. The mean risk-adjusted expected return on the portfolio is 13.29 percent.¹² The low P.E, ten stock portfolio thus experienced a healthy excess return of 11.56 percent per year. The low P.E, five stock strategy produced slightly better results with a mean return of 30.36 percent and excess returns of 16.67 percent.

Table 1: Summary Statistics for Alternative Portfolio Strategies: April 11, 1977-January 9, 1984

<u>Portfolio</u>	<u>Cumulative Return</u>	<u>Portfolio Return</u>	<u>Risk-Adjusted Expected Return</u>	<u>Excess Return*</u>
Low P/E, 10 stock	347.32%	24.85%	13.29%	11.56%
Low P/E, 5 stock	498.72	30.36	13.69	16.67
High P/E, 10 stock	363.53	25.51	13.10	12.41
High P/E., 5 stock	550.77	31.98	13.23	18.78
S&P 500	135.86	13.55	13.55	0.00

*Excess Return is calculated as the difference between portfolio return and adjusted expected return.

The high P/E portfolios performed slightly better than the corresponding low P/E portfolios. The geometric mean returns for the high P/E, ten stock and high P/E, five stock portfolios are 25.51 and 31.98 percent respectively. The excess returns of 12.41 and 18.75 percent are higher than the corresponding low

P/E excess returns. The authors feel that the slightly better performance of the high P/E strategies are probably attributable to chance.

The failure of the low P/E strategies to outperform the high P/E strategies is not particularly surprising. The Timeliness rankings are based in part on the "non-parametric value position," criteria which is based on current earnings and prices relative to their past values. The procedure tends to pick out low P/E stocks and stocks with low P/E's relative to their norms. Thus the failure of the low P/E strategies to outperform high P/E strategies for the test period considered in this paper is probably attributable to the fact that the low P/E factor is already incorporated into the Timeliness rankings. The evidence presented here merely suggests that the P/E ratio provides no additional useful information besides that which is already incorporated in the Value Line firm and industry ranking systems.

The contrast between the return on the Standard and Poor's index and the Rank 1-based portfolios is heightened when one examines the portfolios' cumulative returns. The differences between mean yearly returns becomes magnified through the compounding effect of the higher return during the six year and nine month investment horizon. The cumulative return on each of the four Rank 1-based portfolios is at least twice as great as the return on the S&P 500. The cumulative return on the small investor portfolios vary from a "low" of 347.32 percent for the low P/E, ten stock portfolio to a high of 550.77 percent for the high P/E, five stock portfolio. In contrast, the cumulative return on the index is 135.86 percent.

The statistical tests of the significance of the yearly excess returns are summarized in Table 5. The null hypothesis that the yearly excess returns are drawn from a population with mean zero can be rejected at the five percent level for the low P/E, ten stock and high P/E, five stock portfolio strategies. The null hypothesis can be rejected at the ten percent level for the low P/E, five stock portfolio.

This ability to refute the null hypothesis in some of the tests is impressive considering the weakness of existing statistical tests, the relatively few years of data, and the relatively few stocks in each portfolio. In a recent NBER study appropriately named "Do We Really Know the Financial Markets are Efficient?", L. H. Summers (1982) concludes that current statistical techniques have very limited ability to differentiate between efficient and nonefficient markets. The low power of existing tests can be highlighted with the present study by considering the range in which the mean population excess return for the high P/E, ten stock portfolio can be reliably placed. The population mean annual excess return can be reliably (5% level of significance) placed between -6.66 percent and 33.08 percent based on the observed excess returns. With the present high standard deviation of yearly excess returns, it would take 16 years to conclude that the arithmetic average excess return from the sample is reliably different from zero. By then, based on the geometric mean excess return of 476

percent ($1.115616 - 1$). Thus despite cumulative excess returns of perhaps 450 through sixteen years, the evidence would still be unable to reject the null hypothesis of zero mean excess return at the five percent level.

The small investor who chooses to hold a portfolio consisting of less than perhaps fifteen well-diversified stocks must also consider the diversifiable risk remaining in the portfolio. This type of risk is obviously not of great concern to the investor to a diversified mutual fund. The additional diversifiable risk from following the small portfolio strategies can be substantial for a one year investment horizon but it does not appear to be substantial over longer holding periods (see Tables 2 and 3). The elusive concept of risk is obviously concerned with potential downside performance. A feeling for the size and severity of the remaining company specific risk for the test period can be gleaned by observing the yearly excess returns. The worst performance in Tables 2 and 3, when worse is measured by lowest on year excess returns, is the -20.56 percent excess return for high P/E, ten stock portfolio for 1983. The worst one year performance for the five stock portfolio strategies is the -14.46 percent excess return for high P/E, portfolio in 1983. However, the worst annual excess return for a two year period is only -1.33 percent for the ten stock portfolios (low P/E, 1981-82; $(.59-3.25)/2$) and -4.78 percent for the five stock portfolios (low P/E, 1981-82).

Of course, the performance of these investment strategies (or derivations thereof) may not prove as "safe" in the future. The lower average excess returns in the 1981 through 1983 period might reflect a decrease in Value Line's relative predictive ability. If lower excess returns are to be expected in the future, an investor must determine whether the expected excess returns, if any, available from following a small portfolio strategy are worth the additional risk.¹³ However, there is little evidence to suggest that the investment strategies considered here would have subjected investors to an inordinate amount of additional, downside risk over a multi-year period due to the maintenance of a small portfolio.

Returns After Transaction Costs and Taxes

Mutual funds often provide the small investor with another benefit besides diversification. They often provide an investment vehicle with low transaction costs. The management fee and transaction costs borne by the investor in a no load mutual fund may be substantially below the transaction costs borne by most small investors that maintain their own portfolio.

Because we are interested in examining the viability of a simple investment strategy for an indolent investor, we a priori limited transactions to one period per year. This has the additional advantages of limiting transaction costs and allowing the investor to benefit from the possibility of realizing long-term gains and short-term losses.¹⁴

Transaction costs for the small investor are estimated to be one percent in and one percent out. Making "proper" adjust-

Table 2: Yearly Return Records for Ten Stock Portfolios

Timeliness Rank 1, Low P/E, Ten Stock Portfolio

<u>Year²</u>	<u>Portfolio Return</u>	<u>Risk Adjusted Expected Return</u>	<u>S&P 500</u>	<u>Excess Return</u>
1977 ¹	16.89%	-3.36%	-1.92%	20.25%
1978	36.97	9.13	8.71	27.84
1979	35.83	15.51	14.97	20.32
1980	39.15	37.42	34.50	1.73
1981	-7.95	-8.54	-4.99	0.59
1982	15.01	18.26	18.60	-3.25
1983 ²	39.65	28.23	26.95	11.42
Geometric Mean Annual Return ³	24.85%	13.29%	13.55%	11.56%

Timeliness Rank 1, High P/E, Ten Stock Portfolio

1977 ¹	1.64%	-2.67%	-1.92%	4.31%
1978	45.68	9.26	8.71	36.42
1979	25.66	15.47	14.98	10.19
1980	70.90	32.48	34.50	38.42
1981	-6.14	-7.79	-4.99	-1.65
1982	43.96	18.65	18.60	25.31
1983 ²	7.86	28.42	26.95	-20.56
Geometric Mean Annual Return ³	25.51%	13.10%	13.55%	12.41%

¹ The 1977 returns are for the period beginning April 11, 1977 and ending January 9, 1978.

² The one year investment period begins on the Monday following the first January issue of the Value Line Investment Survey (except for 1977) and ends at the corresponding date the next year. The number of stocks in both the low P/E and high P/E, ten stock portfolios is one in 1977 and 1983, two in 1979 and 1980, three in 1978 and 1982, and six in 1981.

³ The geometric mean annual return is lower than the arithmetic average return. The geometric mean is the preferred measure because it represents the annual return that produces the ending wealth position. The investment period is 6.75 years.

Table 3: Yearly Return Records for Five Stock Portfolios

Timeliness Rank 1, Low P/E, Five Stock Portfolio

<u>Year²</u>	<u>Portfolio Return</u>	<u>Risk Adjusted Expected Return</u>	<u>S&P 500</u>	<u>Excess Return</u>
1977 ¹	39.90%	-3.72%	-1.92%	43.62%
1978	35.29	8.89	8.71	26.40
1979	57.06	16.23	14.97	40.83
1980	40.58	39.90	34.50	-0.68
1981	-6.32	-8.16	-4.99	1.84
1982	6.92	18.31	18.60	-11.39
1983 ²	43.04	28.23	26.95	14.81
Geometric Mean Annual Return ³	30.36%	13.69%	13.55%	16.67%

Timeliness Rank 1, High P/E, Five Stock Portfolio

1977 ¹	6.45%	-2.70%	-1.92%	9.15%
1978	36.72	9.10	8.71	27.62
1979	43.79	15.96	14.98	27.83
1980	80.06	34.95	34.50	45.11
1981	-1.47	-6.67	-4.99	5.20
1982	53.06	15.70	18.60	37.36
1983 ²	14.51	28.97	26.95	-14.46
Geometric Mean Annual Return ³	31.98%	13.23%	13.55%	18.75%

¹ The 1977 returns are for the period beginning April 11, 1977 and ending January 9, 1978.

² The one year investment period begins on the Monday following the first January issue of the Value Line Investment Survey (except for 1977) and ends at the corresponding date the next year. The number of stocks in both the low P/E and high P/E, ten stock portfolios is one in 1977 and 1983, two in 1979 and 1980, three in 1978 and 1982, and six in 1981.

³ The geometric mean annual return is lower than the arithmetic average return. The geometric mean is the preferred measure because it represents the annual return that produces the ending wealth position.

ments for taxes is not as straightforward. The tax consequences depend upon individual tax rates, which vary among individuals in any year and from year-to-year for the same individual. The tax treatment of dividends is also clouded because the first \$100 of dividends (\$200 for a married couple) is a tax free. Thus the small investor will not have to pay taxes on some or all of the dividend income. The treatment of capital gains could be greatly affected by very modest changes in investment strategy. Short-term losses could easily be realized about one week earlier before the end of the year. Capital gains could be realized a day or two later and benefit from the favorable long-term gains tax treatment. In addition, the investor with wide variations in yearly income can time his gains and losses to this benefit.

Even with these modest complications an investor would require less than an hour of time per year to adjust the portfolio. Thus we cannot talk about "the" proper treatment for taxes for simple investment strategies of the type examined in this paper. In this study we assume that the investor is in the forty percent marginal tax bracket¹⁵ and the tax rate remains constant from year to year. During years when the portfolio generates a positive return, all of the returns net of transaction costs are assumed to be realized as long-term gains with sixty percent of the net gain being tax free. In years when the portfolio produces a loss, the total return less transaction costs are assumed to be realized short-term. This tax treatment does not appear to be unreasonable. A comparison of the after-tax, net of transaction costs returns (hereafter net returns) should be representative of the results that would have been realized by typical small investors during the test period. The authors suspect that most small investors following such an investment strategy would pay less taxes than suggested due to the ability to time taxes with changing personal tax rates. The ability to time, insofar as possible, long-term gains and short-term losses to take advantage of the discrepancy in tax treatment and the end of the calendar year, and the \$100 or \$200 dividend exclusion.

The method of estimating the net return on a no load mutual fund that emulates the S&P 500 is not entirely clear. The investor in a mutual fund must pay a management fee of perhaps 0.6 percent per year. In addition, a mutual fund passes dividends and realized capital gains less brokerage commissions through to the investor while the realized gain on an index fund would presumably be minimal. The tax adjustment is based on the assumption that the entire return (net of the 0.6 percent management fee per year) is realized as a long-term gain in January, 1984. This assumption appears favorable to the index fund.

The net returns for the small investor portfolios and the index fund are summarized in Table 4. The geometric mean net returns on the small investor portfolios range from a low of 19.30 percent on the low P/E, ten stock portfolio to a high of 24.99 percent on the high P/E, five stock portfolio. The small investor portfolios exhibit a mean yearly net return that is at

least 50 percent above the net return on the S&P based index fund. The cumulative net return on the small investor portfolio after the six year, nine month period is at least 100 percent above the net return on the index fund.

Table 4: Portfolio Returns Net of Taxes and Transaction Costs

	Low P/E, 10 stock	Low P/E, 5 stock	High P/E, 10 stock	High P/E, 5 stock	S&P Index Fund
1977	12.23%	31.18%	-0.23%	3.64%	-2.371
1978	28.77	27.38	35.94	28.56	8.11
1979	27.83	45.30	19.45	34.38	14.37
1980	30.56	31.74	56.70	64.24	33.90
1981	-5.87	-4.91	-4.82	-2.06	-5.59
1982	10.69	4.03	34.52	42.01	18.00
1983	30.97	33.76	4.80	10.27	26.35
Cum. Net Return	229.14%	323.23%	240.64%	351.01%	107.12 ²
Geom. Annual Return	19.30	23.82	19.90	24.99	11.39

¹The management fee for the nine months of 1977 on the fund is assumed to be .45 percent.

²The total returns on the index fund are assumed to be realized as a long-term gain in January, 1984.

The net excess returns do not allow us to reliably determine with existing statistical procedures whether the net excess returns in this study are from efficient or inefficient markets. The statistical test reported in Table 5 cannot reject at usual confidence levels the null hypothesis that the sample net excess returns are drawn from a population with mean zero. Of course, the data also cannot reject the hypothesis that the net excess returns are positive and substantial.

Table 5: Statistical Tests of yearly Excess Return Records

	T-Statistics on Excess Returns	T-Statistics on Net Excess Returns
Low P/E, 10 stock	2.50 ²	1.54
High P/E, 10 stock	1.63	1.61
Low P/E, 5 stock	2.05 ³	1.22
High P/E, 5 stock	2.51 ²	2.10 ³

¹The t-statistics are for the null hypothesis that the yearly excess returns are drawn from a population with a mean of zero. The nine month excess returns for 1977 are treated as annual returns for the test.

²The null hypothesis can be rejected at the five percent level.

³The null hypothesis can be rejected at the ten percent level.

Some authors refer to statistically insignificant net excess returns, such as in this study, as being economically insignificant. This is a misnomer. The existence of positive net excess returns means that the small investors ending wealth position exceeds risk-adjusted expected levels. In this study, small investors ending wealth position would have been at least 100 percent above the expected level. This has clear economic significance despite the fact that we cannot rule out the possibility that the good performance was due to luck.

As expected, the consideration of transaction costs and taxes reduces the net advantage of the small investor portfolio strategies. The mean annual net returns are about six percentage points below the gross return figures reported in the earlier tables. The net returns for the index fund is about 2.2 percentage points below the gross return for the S&P 500. An investor following a small portfolio strategy should expect a larger discrepancy between the gross and net return figures than would exist with a no load mutual fund investment strategy. the size of the discrepancy will vary with individual tax rates and other considerations, but the major factor influencing its size will probably be the portfolio turnover rate. The size of the discrepancy will generally increase with turnover ratio for several reasons: Higher transaction costs, the tendency of active portfolio strategies to miss the favorable long-term capital gains tax treatment, the probable decreased ability to time gains and losses for low and high income years, and the probable decreased ability to postpone taxes by delaying the realization of capital gains.

Despite the implication of the efficient markets hypothesis, the small investor portfolio strategies examined here clearly outperformed "the market" during the period April 1977 to January 1984. The cumulative net return on the Rank 1-based portfolios are at least 100 percent above the cumulative net return on a S&P 500-based index fund.

Conclusions

There have been several published studies highlighting the Value Line ranking system's record of outperforming the market for the time periods preceding the period used in this study. Despite the widespread knowledge of this market inefficiency,¹⁷ the stock market has apparently not fully adjusted to the information content of the rankings. An investor following the Value Line-based low P/E, ten stock portfolio strategy, a strategy that could have been formulated from the literature predating the April 11, 1977 to January 9, 1984 test period, would have earned a cumulative return before transaction costs and taxes of 347 percent or 211 percent above the cumulative return on the S&P 500. After adjustment for beta risk the cumulative excess return is 215 percent. The excess returns on slightly different small investor strategies would have been even higher.

The return figures on the low P/E, ten stock portfolio and an index fund emulating the S&P 500 are adjusted for transaction

costs and taxes. The cumulative return net of all costs for the small investor portfolio would have been about 100 percent higher than the net return on the index fund for the six year and nine month period examined. The return figures for the other small portfolio strategies would have been even better.

Despite the implications of the semi-strong form of the efficient markets hypothesis, low P/E stocks and the Value Line ranking system have repeatedly demonstrated their ability to outperform the market. This study suggests that the Value Line inefficiency has continued in recent years despite the widespread knowledge of the inefficiency for P/E effect for the reasons discussed in the paper. Perhaps the major conclusion from this study should be that successful investment strategies need not be complete, nor require the purchase of a large number of securities. Simple strategies based on apparent market inefficiencies are likely to prove successful.

We do not pretend that any of the particular stock selection strategies examined in this paper need be the "best" strategy based on P/E's or firm size as the first criterion may perform as well or better than a strategy using the Value Line rankings as a first criterion. Indeed the success of the rankings may be attributable to a preference in the Value Line ranking system for low P/E and/or small firm stocks during the period studied. If you are a sufficiently talented analyst, your "best" investment strategy may be the product of diligent effort and arduous work. But, to paraphrase Fisher Black: Yes, Virginia, there is still hope, even if you prefer to spend your time wallowing on the beaches of the Bahamas.

ENDNOTES

1. See LeBaron (1983), Boldt and Arbit (1984), and Selgman (1983).
2. See Basu (1975, 1977), Peavy and Goodman (1983), and Goodman and Peavy (1983). Several less sophisticated articles date back at least as far as Nicholson (1960).
3. See Reinganum (1981 and 1983), Banz (1981), Lustig and Leinbach (1984) and several articles in the June 1983 edition of the Journal of Financial Economics.
4. See Black (1973), Shelton (1967), Murphy (1973), Holloway (1981), Copeland and Mayers (1982), and Reichenstein (1984).
5. Market efficiency studies generally test the joint hypothesis of market efficiency and the use of the CAPM to measure risk. It is possible that the apparent inefficiencies merely reflect errors in CAPM's risk adjustment process and not true market inefficiencies. Because of the intuitive appeal of the market should be assumed to be efficient until proven inefficient beyond a reasonable doubt. The low P/E and Value Line literature have clearly established a reasonable doubt. For example, the studies by Black, Holloway, and Copeland and Mayers use three different risk-adjustment techniques in the study of the Value Line record. Yet all three studies find the record to be inconsistent with the efficient

market hypothesis. The burden of proof now rests with those hypothesizing that the inefficiencies are due to improper adjustment for risk. Because of the lack of such evidence, we refer to the Value Line and low P/E records as inefficiencies, and not apparent inefficiencies, in the study. for more on market inefficiencies, see Footnote 1.

6. The "Current P/E Ratio's" published in the Timely Stocks list is based upon the past six months earnings and expected earnings during the next six months. We strongly suspect most investors, as the authors until recently, are unaware of this misnomer. Regardless, it does not invalidate the analysis. Publicly available information is being used to try to beat the market.
7. In cases where more than one firm had the same listed P/E within an industry, the company listed first alphabetically was chosen.
8. The neglected firm effect hypothesis that firms neglected by institutional investors will yield risk-adjusted excess returns. See Arbel, Carvell, and Strebel (1984), and Arbel and Strebel (1982).
9. See Reinganum (1981) and Arbel, Carvell, and Strebel (1984).
10. Holloway used a 2 percent one-way transaction fee before May 1, 1975 and a 1.25 percent fee thereafter. The weighted average yearly round trip transaction fee (with ten years of 2 percent one-way fees and 3.5 years of 1.25 percent fees) is estimated to be 3.6 percent per year.
11. See Reichenstein (1984).
12. The Jensen performance evaluation technique is used in this study. The risk-adjusted expected returns are calculated using the bond equivalent yield on a one-year Treasury Bill as the risk free rate, the S&P 500 as the market, and Value Line's betas. The one-year Treasury bill rate is adjusted for the nine month investment period in 1977.
13. Value Line's record has been impressive precisely because of its ability to out perform the market over long periods of time. Just as short periods of good performance may be attributable to good luck, VLs recent performance may be due to bad luck. The service suffered through one other multi-year period of comparatively poor performance since adopting their present filter rule in 1965 and bounced back strongly. However, 1983 was the first year since the adoption of the filter rule in which Rank 1 stocks under performed Rank 5 stocks based on the capital-gains-only records published by Value Line.
14. Clark Holloway calculates the additional gross return for the 1974-77 period from following a weekly-adjusted Rank 1 portfolio compared with a yearly-adjusted portfolio. Referring to this additional gross return as the Value Line Active Trading Contribution he concludes that "in the presence of realistic transaction costs the VLATC cannot be shown to be significant." If the after transaction costs returns of the two portfolios are essentially similar one would suspect the returns net of taxes as well as transaction costs to favor the modified buy-and-hold portfolio due to the

possibility of realizing long-term gains. However, the determination of an optimal Rank 1 strategy is beyond the scope of this paper.

15. The forty percent marginal tax rate is indicative of personal marginal tax rates estimated by Michael Evans. The data are available from the Federal Reserve Bank of St. Louis.
16. Mutual funds might not have to pass capital gains through to the investor. Capital losses cannot be passes through the investor, but they can be carried forward up[to five years to cancel future capital gains. Therefore, the investor in the example may not have to pay taxes on a fund's realized gain.
17. See Footnote 5.

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