

INVESTMENT GUIDE

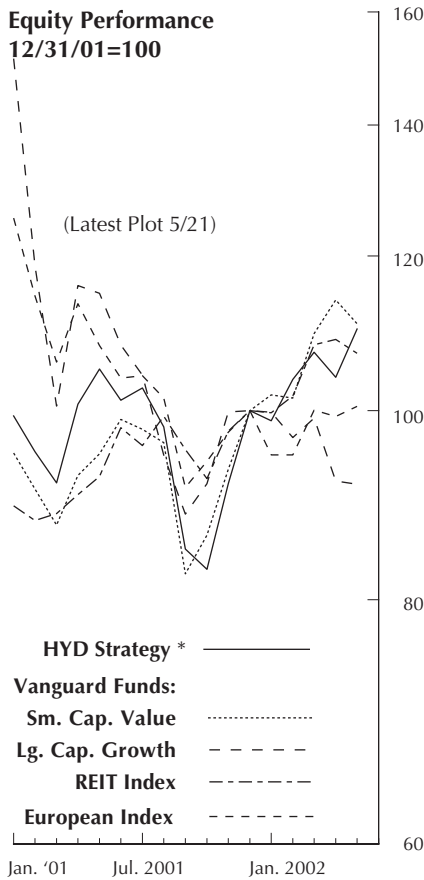
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*HYD is a hypothetical model based on back-tested results. See p. 38 for a full explanation.

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Spend from Capital

The story is told of a female member of a proper Bostonian family who was picked up by the police for streetwalking. At the urgent family conference that followed, the head of the family asked:

"Emily, how could you do such a thing?"

"I needed the money," she calmly replied.

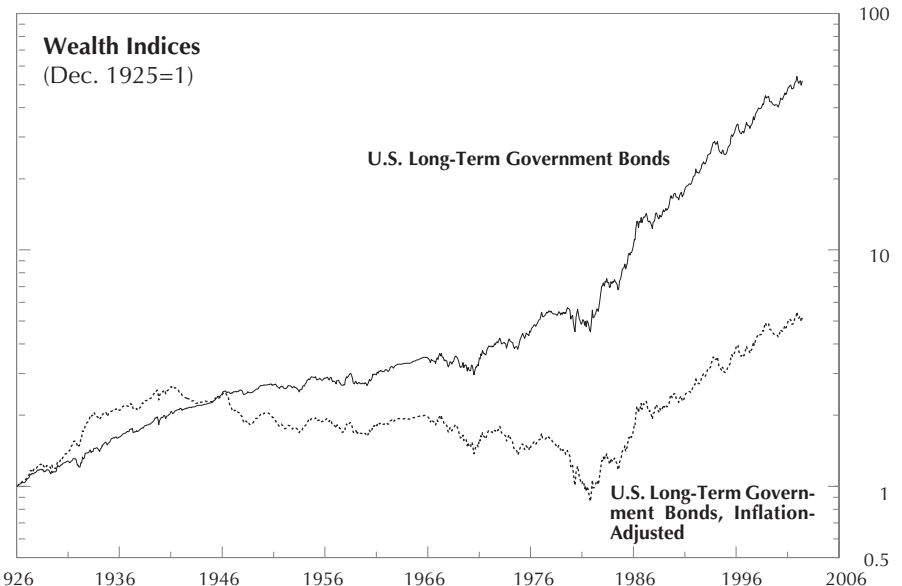
"But your father took care of you in his will, why didn't you use that money?"

"Why, that would be spending out of capital!"

Old investment dictums die hard. Many investors still cling to the notion that spending from principal runs contrary to the notion of building wealth. The rule was born during an era of sound money, when an investor could assume that when he recovered the face value of a bond at maturity he could be relatively certain that the purchasing power of the proceeds would not be diminished from when he first purchased the bond.

Wise investors have since shifted to common stocks, gold, and other assets as a hedge against price inflation. Yet if one refuses to sell common stocks or gold coins in order to avoid spending from capital, he would be contradicting the very reason these assets were purchased in the first place.

In the current environment, with interest rates low and price inflation mild, investors should resist the temptation to "reach for yield" by purchasing fixed income assets with long maturities or lower credit ratings. Should price inflation accelerate with a commensurate increase in interest rates, they will see the value of these securities drop rapidly. Everyone's circumstances are unique, but it is often better to spend from capital, even if it means liquidating assets at a modest but certain loss, than to assume the risk of a substantial loss in the near future.



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EVALUATING THE RESEARCH ON HISTORICAL PERFORMANCE

Unscrupulous (or ignorant) purveyors of investment "advice" often publish or promote misleading data derived from faulty or careless empirical research. Unwary investors should look closely at such claims before investing.

The following article, written by James B. Cloonan, chairman of AAIL, is reprinted in its entirety from the *American Association of Individual Investors Journal*, May 2002, XXIV, No. 4. It provides a concise outline of some of the most significant potential dangers inherent in empirical research. On the next page we address our high-yield Dow research and explain how we were careful to avoid these pitfalls.

Claims about the performance of different stock investment theories are constantly being thrown about. Sometimes it is in the promotion of an investment letter or mutual fund, sometimes in a research summary of a variety of approaches.

AAIL frequently summarizes the leading investment theories, and in *Computerized Investing and Stock Investor* we provide formulas for different approaches and sample results over various time periods. "Stock Strategy Performance: The Winners and Losers in 2001," by John Bajkowski [January 2002, AAIL Journal] presents the results of different screens for the year 2001.

While this research can be of value, it is also important to realize its limitations so that you can place the results in the proper perspective.

As an investor, what you really want to know is how a specific investment approach is going to perform in the context of your own portfolio in the future. Obviously, this information is not going to be available. But you can look at performance research and see if it provides any insight into how the strategy might perform in the future.

How can you tell if the research is truly insightful?

There are a number of factors that will influence the accuracy of historical research in estimating the future. You should carefully examine each one when reviewing claims of investment performance.

Is there a rational underlying theory?

There are millions of events happening simultaneously in the world at the same time the stock market is trading. If you run thousands of correlations, you are bound to find events that appear to be strongly correlated to stock performance, but are simply corre-

lated due to chance. The theories relating to football scores and future market behavior fall into this category and are coincidence, not a true relationship. A true causal relationship will have a rationale.

Over how long a period was the historical research conducted?

There are all kinds of strategies that perform well in some markets, but few that work in many different markets. It is important that a test covers at least two economic cycles, and includes both bull and bear markets. Use eight to 10 years as a minimum for a serious evaluation of any investment strategy.

Was the test performed going forward or going back?

There are several ways to test an investment strategy. First, you can develop a theory and then test it over an eight- to 10-year period. This is the best way, because it eliminates the possibility of data mining. Data mining occurs when you backtest, using the results to formulate a theory. You can always find some theory that explains past data just by refining it enough until you find strong correlations, but these are likely to be meaningless and nonviable in the future. For instance, I pointed out in one of my columns a couple of years ago ("The Election Cycle and Next Year's Stock Market," January 2000 AAIL Journal), that, since World War II, the market had never been down in an election year. Shortly thereafter, election-year 2000 was down 10%.

An advantage of testing forward is that you get to see and deal with survivorship bias. A frequent mistake that occurs with backtesting is that the researcher takes stocks that exist at the end of the test period and traces them through the previous periods—say eight years. This approach ignores all the stocks that existed eight years earlier, but no longer exist at the end of the period. This can cause a significant bias.

Were the assumptions realistic?

This may be the most serious area of distortion. 'Simplifying assumptions' often don't simplify, they distort. For instance, since the beginning of options trading, there has been research 'demonstrating' all kinds of strategies that would provide the opportunity for great gains with minimal or no loss exposure. The examples were all based on closing prices. The problem, however, is that the strategies all involved complicated transactions, and yet in the research the bid/ask spreads (the difference between buy and sell price at any given

time) were not taken into account—in practice they would eat up all the potential profit. To be at all realistic, research on options strategy performance should use the bid price for sales and the ask price for buys for each of the options over the same time period.

As an example, in John Bajkowski's January 2002 AAIL Journal article, the Joseph Piotroski strategy, which uses accounting approaches to establish additional value, was the best-performing screen among those that we track. Simulations of his approach, as well as his own research, showed returns in excess of those expected based on the risk level of the strategy. Closer inspection, however, shows that those excess returns came primarily from choosing the smallest micro-cap stocks, using the closing price as the assumed purchase price. However, micro-cap stocks typically have very high bid/ask spreads, and the spread is frequently available for only 100 shares. Even rebalancing the portfolio only once a year and buying 500 shares results in all of the excess profit vanishing. To fairly evaluate theories, the investor must make any simulation realistic in terms of execution prices.

A Forward-Looking Test

The AAIL Beginner's Portfolio was formed, in part, because of the problems associated with historical research. I felt a going-forward test of a theory with real portfolio problems was necessary. And based on all the positive evidence about micro-cap stocks and value investing, I thought that would be the best strategy to test. [The Beginner's Portfolio was most recently discussed in the August 2001 AAIL Journal; available in the AAIL Web archives.]

Now that the Beginner's Portfolio is in its 10th year, we can say that many of the problems of testing the theory have been avoided. But we must still acknowledge the reality that the world can change and micro-cap stocks might perform differently in the future. We have, however, avoided many of the problems of theory testing discussed here.

While all honest research helps to shed light on successful approaches to stock portfolio management, you must be aware of the weaknesses of different research methods. In addition, you have to face the reality that, in some cases, flawed research might be used intentionally to lead us astray.

THE HIGH-YIELD DOW APPROACH: INVESTMENT METHODOLOGY

Our 4-for-18 High-Yield Dow model holds up well to the standards discussed in the preceding article.

HYD: Investment Rationale

There is good reason to think that a portfolio of high-yielding stocks might outperform the broader market over the long term, especially among firms that maintain or increase their dividend payout. When these firms face difficult times and the market perceives increased risk, their share prices fall and their dividend yields rise. The model mechanically purchases these relatively high-yielding shares and sells them when they have recovered, their yield having risen as a result of an appreciated share price.

This is entirely consistent with investment theory; high-risk stocks have high expected returns, and investors who assume the risk of holding these stocks have a reasonable chance of garnering returns that exceed those of lower-risk stocks. Some stocks in the model have demonstrated this risk. Westinghouse and Woolworth are examples of stocks in which investors would have sold their shares at a loss, though, depending on when they began following the model, there is a good chance that these would have been more than offset by gains from the shares of companies that rebounded.

Our Research Period

Our original research was based on data going back to 1963. This period encompassed six recessions, a period of severe price inflation, the severe bear market of the mid-1970s, and the greatest bull market in the history of the stock market. We subsequently extended our study to begin in December 1950 to encompass an even broader time span. During the entire 50 year span beginning December 1950 the 4-for-18 model would have provided excess returns of about 4.5% versus simply holding the entire Dow. Over this time span, and at this differential, a hypothetical investment of \$10,000 in the 4-for-18 model would be worth over *nine times* the same amount invested in the Dow.

Forward versus Back-Testing

Ours is a back-tested model, and on the surface it might appear to represent a classic case of data mining. After all, we examined 1,080 possible combinations of rank-by-yield and holding period, and their subsequent returns, in order to form our decision rules. If we had selected the 4-for-18 combination as an exceptional instance among many high-yielding portfolios that on average had performed no better than the market, we would indeed be guilty of data mining. However, as the chart below demonstrates, virtually every portfolio that concentrated in high-yielding stocks, regardless of the holding period or number of stocks eligible, outperformed the overall market. *Our examination of these 1,080 outcomes was merely a means of deriving a reasonably passive decision rule for deciding when to buy and sell shares.* The 4-for-18 decision rule was the optimal portfolio in terms of risk and return during the period we studied. While we believe 4-for-18 will remain among the more effective combinations going forward, there is no reason to believe it will be the best.

We also avoid the survivorship bias

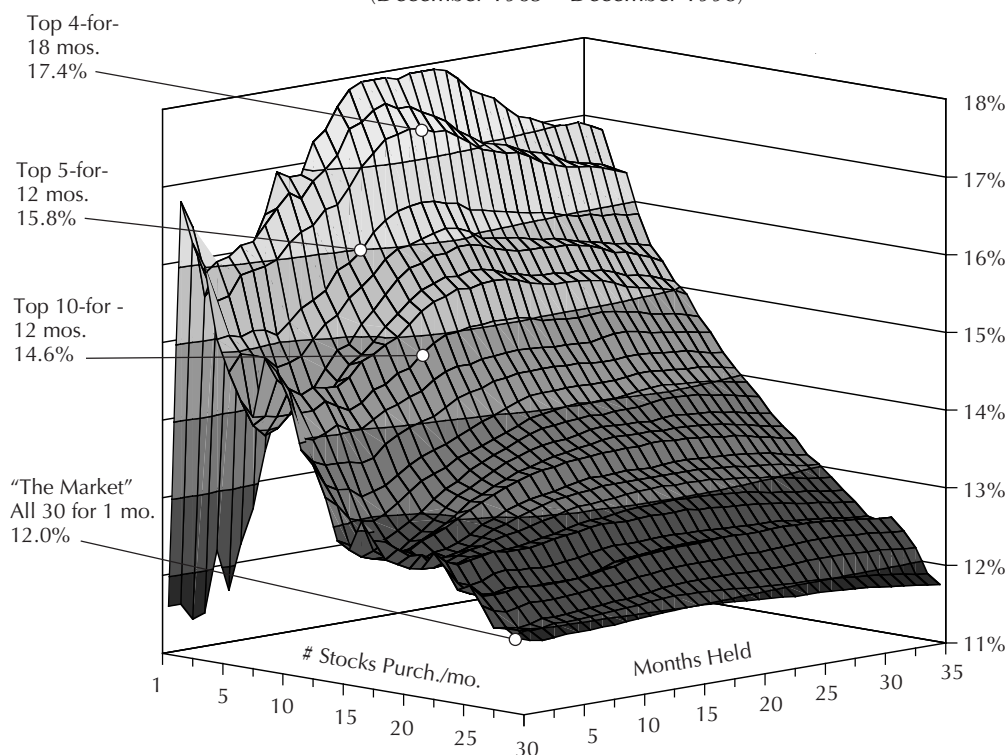
problem. Each month, the model selected from among all 30 companies that comprised the Dow at that time, including those that were later dropped.

Our Assumptions

Relative to other research we have seen, we believe we were meticulous in forming our assumptions. In constructing our model we tried to assume the role of an investor beginning as early as December 1962, who would have been aware of the 30 stocks that comprised the Dow at that time, the daily prices for those stocks, and the *indicated* dividend for each stock. Reconstructing the indicated dividend history was especially taxing. The most recent quarterly dividend *paid* would have been easily obtainable from many databases, but this would have been inaccurate; an investor would be considering the most recent quarterly dividend *declared* by each company's board when making his investment decision, so we had to obtain actual stock listings from newspapers on the 15th of each month going back to 1963 in order to obtain this data.

We adjusted for trading costs by adjusting mid-month prices. For purchases (sales) we added (subtracted) \$0.125 per share. We used closing prices in our

Our Initial Study: Annualized Total Return on Portfolios of DJIA Stocks
(December 1963 – December 1998)



evaluation, but the firms in the Dow have always been among the most widely traded in the market, and are among the largest in existence in terms of market

capitalization, so an individual investor's impact on the bid-ask spread would not be significant.

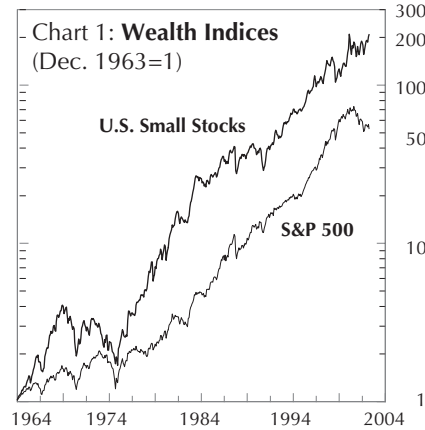
Note: The AAll article refers to a

Beginner's Portfolio in the last section. This is an experimental portfolio of small-cap stocks followed by AAll. It is unrelated to our recommended assets.

SMALL-CAP STOCKS: AN UPDATE

Small-cap stocks have generally performed well since we first recommended them in October 2000. This is simply due to chance; our recommendation was not an attempt to identify an asset class that we thought was about to become "hot." Our rationale then, as now, was based on a review of historical asset class performance that suggested that long-term investors could ultimately benefit by holding small-cap stocks as part of an overall portfolio strategy.

Our assessment of asset-class performance was derived from a monthly returns database maintained by the Center for Research in Securities Prices (CRSP). For data through 1981, the CRSP database ranks all issues listed on the New York Stock Exchange (NYSE) by market capitalization in descending order and then breaks that list down by decile (e.g., decile 1 includes those stocks that comprise the largest 10% of NYSE listed stocks). After 1981, non-NYSE issues were added by including them in the decile that they would belong in if they were listed on the NYSE. The non-NYSE stocks (i.e., stocks listed on the American Stock Exchange or over-the-counter) tend to have smaller market capitalizations than "Big Board" listed issues. Therefore, the deciles did not contain either an equal number of stocks or equal



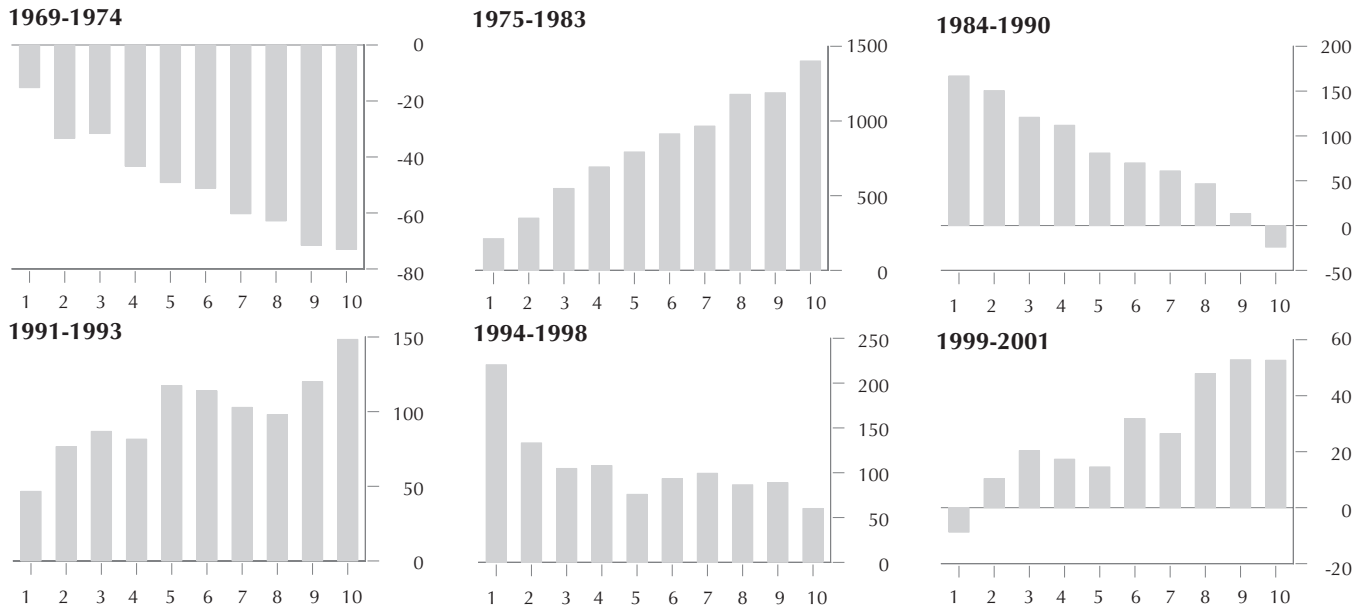
amounts of market capitalization, but rather something in between. Beginning in July 2001, the CRSP was again adjusted to first include all NYSE and non-NYSE stocks, which were then ranked by market capitalization in descending order and separated into deciles.

The historical returns and volatility of these deciles have been thoroughly studied. As indicated in Chart 1, small-cap stocks have provided significantly greater returns than Standard & Poor's 500 Index (large-cap stocks), although investors would have had to accept increased volatility in the process. Small-cap stocks are represented as the fifth capitalization quintile (bottom 20%) of stocks in the CRSP

database. After 1981 that figure reflects the results for the DFA U.S. Micro-Cap Portfolio, a passively managed mutual fund that concentrates on issues (including ASE and NASDAQ stocks) with capitalizations that would place them in the fifth capitalization quintile of the CRSP database. Because they are so numerous, these "micro-cap" stocks account for the lowest four percent of the market's entire capitalization.

What should make micro-cap stocks especially attractive to investors, however, is not just their relatively small potential return premium; but rather the fact that the returns to micro-capitalization issues are not strongly correlated with those of large stocks. In Table 1 we show market returns by quintiles. Large stocks (quintile 1) and micro-cap stocks (quintile 5) provided the greatest "swings" in terms of gains and losses over three-year, rolling periods, but most importantly, these swings were not correlated. For example, between 1966 and 1968, micro-caps averaged over 40.6% annually, while large-caps managed only 7.9%. Conversely, between 1987 and 1989, micro-caps returned only 4.3% while large-caps gained 16.7%. No one can predict these patterns of relative performance in advance, but investors can maximize their potential returns while

Chart 2: History of the Size Effect, Total Returns by Capitalization Decile (%)



minimizing volatility by holding both groups. Chart 2 makes the same point.

Despite their inherent volatility, micro-caps have demonstrated resiliency during bear markets. Between 1966 and December 1982, a very difficult period for most equity investors, the bottom quintile of the NYSE by market capitalization provided annualized total returns of 13.9%, while the S&P 500 returned only 5.8% annually.

No Free Lunch

We must emphasize that micro-cap stocks are extremely volatile. In capital markets there is an inevitable trade off between risk and return. Micro-cap stocks, which often are unproven “concept” stocks with an intriguing product or business plan or older companies in distress, are usually unattractive to investors or lenders unless the potential returns are very high. Just as lenders would demand a high rate of interest for lending to these companies, equity investors require a high expected rate of return (from the firm’s perspective, this represents a high cost of capital).

Only investors who have a relatively long investment horizon, who can weather the ups and downs depicted in Table 1, should consider this group, and in terms of portfolio allocation, these micro-caps should comprise between zero and 10% of a portfolio. We have grouped the micro-cap approach as part of the value-stock category since, by construction, candidates are purchased when they qualify for the smallest 4th percentile of the market-capitalization universe and sold when they migrate above the 5th percentile of the market universe, after their shares have appreciated.

Why Not Pick the Best Small Stocks?

According to Morningstar, Inc., some 1,122 small-cap mutual funds exist. Innumerable money managers claim to be adept stock pickers, but evidence suggests that no one can consistently outperform the small-cap market average.

It is important to note that the average median capitalization of Morningstar’s small-cap category (small-cap blend) for mutual funds that have been in existence for 15 years or more is \$972 million, while the DFA Micro-Cap fund median market capitalization is only \$176 million.

It is a virtual certainty, statistically, that when enough money managers are at-

Table 1
Small and Large Stocks: Highest and *Lowest* Returns
(Annualized Rolling Three-Year Returns (%))

Size Quintile	1	2	3	4	5
1927-29	18.3	10.2	6.5	1.3	<i>-1.0</i>
1930-32	-29.8	-31.1	-32.6	<i>-35.5</i>	<i>-31.4</i>
1933-35	<u>35.6</u>	47.7	54.6	68.0	86.7
1936-38	4.2	2.7	4.1	1.2	<u>0.8</u>
1939-41	-5.5	-5.2	-4.2	-4.7	<i>-9.8</i>
1942-44	<u>23.0</u>	28.3	36.4	47.3	77.5
1945-47	<u>10.9</u>	12.7	13.1	11.3	15.6
1948-50	17.0	16.7	16.9	16.2	<u>19.4</u>
1951-53	12.0	9.8	7.5	6.5	<u>2.3</u>
1954-56	26.2	25.8	27.1	<u>25.5</u>	27.8
1957-59	<u>13.7</u>	16.2	15.4	17.8	19.2
1960-62	5.8	5.3	1.6	2.0	<u>1.2</u>
1963-65	<u>16.9</u>	19.8	22.1	22.2	22.2
1966-68	<u>7.9</u>	15.9	22.5	28.0	40.6
1969-71	1.9	0.9	-2.6	<i>-7.7</i>	0.6
1972-74	2.2	-15.3	-18.8	-21.3	<i>-25.4</i>
1975-77	<u>17.8</u>	31.5	37.3	44.9	47.2
1978-80	<u>19.3</u>	24.9	28.2	31.4	33.2
1981-83	<u>10.6</u>	17.4	20.4	19.2	22.7
1984-86	19.6	15.1	13.5	10.9	<u>4.4</u>
1987-89	16.7	16.1	12.8	10.9	<u>4.3</u>
1990-92	<u>11.6</u>	12.9	15.5	11.8	11.7
1993-95	14.8	<u>14.8</u>	14.8	14.8	15.9
1996-98	25.9	16.6	12.6	14.8	<u>10.6</u>
1999-01	<u>0.2</u>	5.9	7.1	11.0	15.2

tempting to pick stocks, some will outperform a passive benchmark simply due to chance, even over extensive time periods. Indeed, evidence suggests that the number of stock pickers who have outperformed has been below what would be expected by chance. Moreover, those who have “outperformed over a given time period are rarely the same individuals who do so over subsequent periods, so investors who select managers on this basis are likely to be disappointed. We believe this is the case with small-cap stocks as well. Over the past 12 months the DFA Micro-Cap fund has outperformed 91% of the small-cap value funds in existence. Over 3, 5, and 10 year spans it has outperformed 79%, 72%, and 83% of small-value funds, respectively.

Investing in Micro-caps

Regrettably, individual investors have very few venues for purchasing micro-caps in an adequately diversified, cost-effective manner. Most of these companies are so small and illiquid that bid-ask spreads and commission costs make direct investments impractical.

The DFA U.S. Micro-Cap Portfolio turns this apparent shortcoming into a significant advantage. In short, when buying these shares, the fund is often the effective market maker, which creates significant buying leverage. When selling shares the funds managers patiently sell off small portions of holdings, even if the delay risks missing the goal of holding only stocks

among the smallest 4% of the market’s total capitalization. This trading advantage is significant; between January 1982 and December 2001 the fund matched its bogey, the CRSP 9-10 Index, despite charging for the costs associated with running the fund.

The DFA 9-10 fund does not purchase master limited partnerships, investment companies, ADRs, REITs, initial public offerings, companies in bankruptcy, or stocks with fewer than four market makers. The annual expense ratio is 0.56% (versus 1.54% for all small-cap funds), and annual turnover is only 37% (versus 111% for all small-cap funds). As of March 31 the fund held 2,738 issues and its 10 largest holdings accounted for roughly 4% of its assets.

The DFA funds can only be purchased through a qualified investment advisor. The DFA group carefully screens advisors, partly to avoid the funds of “hot money” investors and money managers attempting to chase the latest returns. This works to the benefit of investors by reducing costs. *We can purchase these funds through our Professional Asset Management program. Please contact us at (413)-528-1216 to learn more.*

We have searched for a reasonable substitute to recommend to our readers. A number of small-cap index funds are available that track either the Russell 2000 Index or the Standard and Poor’s 600 Index. These indexes largely exclude micro-cap stocks, and focus on much larger stocks. For example the Russell 2000 index is constructed by selecting the 3000 largest U.S. companies by market capitalization, and then eliminating the largest 1000 of these stocks. At the end of March the Russell 2000 index had a median market capitalization of \$775 million versus \$176 million for the DFA Micro-Cap fund. Similarly the S&P 600 Small-Cap Index had a median market capitalization of \$794 million. Nevertheless, these indexes can provide a reasonable means of adding stocks that are far smaller than the high-yield Dow stocks. For this purpose, we currently recommend the Vanguard Small-Cap Value Index fund and the iShares Small-Cap 600 Value Index, which are listed on page 40. These funds include only value stocks (as defined by a firm’s book-to-price ratio) that therefore tend to be among the smaller companies among the S&P 600 Small-Cap Index.

THE HIGH-YIELD DOW INVESTMENT STRATEGY

We are convinced that long-term, common-stock investors will receive superior returns on the “large-capitalization-value stocks” component of their holdings when they consistently hold the highest-yielding Dow stocks. The fact that a given company’s stock is included in the Dow Jones Industrial Average is evidence that the company is a mature and well-established going concern. When a Dow stock comes on the list of the highest-yielding issues in the Average, it will be because the company is out of favor with the investing public for one reason or another (disappointing earnings, unfavorable news developments, etc.) and its stock price is depressed. A High-Yield Dow (HYD) strategy derives much of its effectiveness because it forces the investor to purchase sound companies when they are out of favor and to sell them when they return to relative popularity.

Selecting from the list will not be cut and dried if the timing of purchases and sales reflects individual prejudices or other *ad hoc* considerations. These usually come down to “I’m not going to buy that” or “goody, this fine company has finally come on the list and I’m going to load up.” Our experience with investing in the highest-yielding Dow stocks has shown that attempts to “pick and choose” usually do not work as well as a disciplined approach.

Our parent has exhaustively researched many possible High-Yield Dow approaches, backtesting various possible selections from the DJIA ranked by yield for various holding periods. For the 35 years ended in December 1998, they found that the best combination of total return and low risk (volatility) was obtained by purchasing the 4 highest-yielding issues and holding them for 18 months. (For a thorough discussion of the strategy for investing in the highest-yielding stocks in the DJIA, please read AIER’s booklet, “How to Invest Wisely”, \$12.)

The model portfolio of HYD holdings set forth in the accompanying table reflects the systematic and gradual accumulation the 4 highest-yielding Dow issues that are neither General Motors nor Philip Morris. We exclude GM because its erratic dividend history has usually rendered its relative yield ineffective as a means of signaling timely purchases, especially when it has

ranked no. 4 or higher on the list. We exclude Philip Morris because, in present circumstances, it seems unlikely that there will be sufficient “good news” for it to be sold out of the portfolio. For more than eight years, Philip Morris has never ranked lower than fourth on the list, whatever its ups and downs, and, given the circumstances, using Philip Morris in the strategy amounts to a buy-and-hold approach. The HYD strategy, to repeat, derives much of its superior performance from buying cheap and selling dear.

In the construction of the model, shares purchased 18 months earlier that are no longer eligible for purchase are sold. The hypothetical trades used to compute the composition of the model (as well as the returns on the model and on the full list of 30 Dow stocks) are based on mid-month closing prices, plus or minus \$0.125 per share. This month,

two of the four stocks eligible for purchase, **SBC Communications** and **JP Morgan Chase**, were not eligible for purchase 18 months earlier (in November, 2000), and two issues that were eligible for purchase 18 mos. ago, **AT&T** and **Caterpillar** are not eligible this month. Most investors following the model should find that the former group’s indicated purchases, and the latter’s indicated sales (plus sales of shares of **AT&T Wireless** that were spun-off from AT&T) are sufficiently large to warrant trading. However, rebalancing could also make purchases of additional **Eastman Kodak**, which underperformed the others over the past 18 month span, warranted.

Investors with sizable portfolios should be able to track the exact percentages month to month, but to avoid excessive transaction costs, investors should adjust their holdings toward the

As of May 15, 2002

	Rank	Yield	Price	—Percent of Portfolio*—		
				Status	Value	No. Shares†
Eastman Kodak	1	5.33%	33.79	Holding**	22.3	26.9
Philip Morris	2	4.33%	53.59	*	-0-	-0-
JP Morgan Chase	3	3.68%	36.96	Buying	18.7	20.7
SBC Comm.	4	3.23%	33.41	Buying	4.3	5.2
Dupont	5	3.00%	46.63	Holding**	25.8	22.5
General Motors	6	2.97%	67.30	*	-0-	-0-
Caterpillar	7	2.50%	56.00	Selling	20.0	14.5
Merck & Co.	8	2.46%	56.90			
General Electric	9	2.33%	30.93			
Exxon Mobil	10	2.32%	39.71			
Int’l Paper	11	2.22%	44.99	Holding	8.1	7.3
AT&T	22	1.11%	13.51	Selling	0.7	2.2
AT&T Wireless	—	0.00%	7.94	Selling	<u>0.1</u>	<u>0.7</u>
					100.0	100.0

Change in Portfolio Value‡

	1 mo.	1 yr.	5 yrs.	10 yrs.	15 yrs.	From	Std.
						12/63	Dev.
Strategy	1.9%	-2.5%	11.7%	14.7%	16.1%	16.3%	19.0
Dow	1.7%	-3.8%	8.6%	13.9%	13.3%	11.0%	17.3

* The strategy excludes Philip Morris and General Motors. ** Indicated purchases approximately offset by sales of shares purchased 18 months ago. † Assuming all purchases and sales at mid-month prices (+/- \$0.125 per share commissions) reinvestment of all dividends and interest, and no taxes. The 5-, 10- and 15-year total returns are annualized as are the total returns and the standard deviations of those returns since December 1963. ‡ Because the percentage of each issue in the portfolio by value reflects the prices shown in the table, we are also showing the number of *shares* of each stock as a percentage of the total number of shares in the entire portfolio.

Note: These calculations are based on hypothetical trades following a very exacting stock selection strategy, and are gross of any management fees. They do not reflect returns on actual investments or previous recommendations of AIS. Past performance may differ from future results.

percentages in the table only when prospective commissions will be less than one percent of the value of a trade. By making such adjustments from time to time, investors should achieve results roughly equal to the future performance of the model.

The process of *starting* to use the strategy is not as straightforward. The two most extreme approaches are: 1) buy all the indicated positions at once or 2) spread purchases out over 18 months. Either choice could be said to represent an attempt at market timing, i.e., buying all at once could be construed as a prediction that (and will look good in retrospect only if) the prices of the shares go up after the purchases are made. On the other hand, if purchases are stretched out and stock prices increase, the value of the investor's holdings will lag behind the strategy's performance. We believe that most attempts to time the market are futile, and the best course lies somewhere in between the extremes.

Some portion of the shares now held in the strategy will be sold within a few months. The shares most likely to be

sold are those whose indicated yields are too low to make them currently eligible for purchase. This usually means that their prices have risen (and their yields have fallen) in relative if not absolute terms, since they were purchased. If such stocks are purchased now and are sold within a few months, the investor will receive only a portion of the profit, or sustain a greater loss, than the strategy. On the other hand, if the stocks not currently eligible for purchase are bought and the strategy does not call for selling them soon, it will usually be because their prices have decreased so that their indicated yields render them again eligible for purchase. In other words, buying a stock that is not currently among the top 4 means that it will very likely be sold during the months ahead (perhaps at a gain, perhaps not, but with payment of two commissions either way). Alternatively, if the price decreases so that the issue again becomes eligible for purchase, then the investor's initial purchase would be likely to be held in the portfolio at a loss for some period of time. In the latter situ-

ation, the investor would have been better off waiting.

Accordingly, for new HYD clients, we usually purchase the complement of the currently eligible stocks without delay. (This month, the four eligible issues—SBC Communications, Dupont, Eastman Kodak, and J.P. Morgan Chase—account for roughly 65% of the total portfolio value). Any remaining cash will be held in a money-market fund pending subsequent purchases, which will be made whenever the client's holdings of each month's eligible stocks are below the percentages indicated by the strategy by an amount sufficient to warrant a trade.

Our **HYD Investment Management Program** provides professional and disciplined application of this strategy for individual accounts. For accounts of \$100,000 or more, the fees and expenses of AIS's discretionary portfolio management programs are comparable to those of many index mutual funds. Contact us for information on this and our other discretionary investment management services.

THE DOW JONES INDUSTRIALS RANKED BY YIELD

Ticker Symbol	Market Prices			12-Month		Latest Dividend			Indicated		
	5/15/02	4/15/02	5/15/01	High	Low	Amount	Record Date	Paid	Annual Dividend	Yield† (%)	
★ Eastman Kodak	EK	\$33.79	34.01	47.27	49.95	24.40	0.900	6/03/02	7/16/02	1.800	5.33
Philip Morris	MO	\$53.59	52.85	50.92	56.69 H	43.00	0.580	3/15/02	4/10/02	2.320	4.33
★ J. P. Morgan Chase	JPM	\$36.96	34.40	47.28	50.60	26.70	0.340	4/05/02	4/30/02	1.360	3.68
★ SBC Comm.	SBC	\$33.41	33.47	43.35	47.50	30.14 L	0.270	4/10/02	5/01/02	1.080	3.23
★ DuPont	DD	\$46.63	46.86	46.75	49.88	32.64	0.350	5/15/02	6/12/02	1.400	3.00
General Motors	GM	\$67.30	61.10	54.61	68.17 H	39.17	0.500	5/17/02	6/10/02	2.000	2.97
☆ Caterpillar	CAT	\$56.00	57.99	53.14	59.99	40.31	0.350	4/22/02	5/20/02	1.400	2.50
Merck	MRK	\$56.90	54.53	75.90	79.16	51.00	0.350	3/08/02	4/01/02	1.400	2.46
General Electric	GE	\$30.93	31.85	50.15	53.55	28.50	0.180	3/01/02	4/25/02	0.720	2.33
Exxon Mobil (s)	XOM	\$39.71	41.60	89.45	45.84	35.01	0.230	5/13/02	6/10/02	0.920	2.32
☆ International Paper	IP	\$44.99	40.40	37.70	46.20	30.70	0.250	2/22/02	3/15/02	1.000	2.22
3M Company	MMM	\$129.50	121.55	118.15	130.09 H	85.86	0.620	5/24/02	6/12/02	2.480	1.92
Honeywell Intl.	HON	\$39.25	40.00	50.31	53.90	22.15	0.188	5/20/02	6/10/02	0.750	1.91
Alcoa	AA	\$36.07	36.71	42.00	45.71	27.36	0.150	5/03/02	5/25/02	0.600	1.66
Hewlett-Packard	HPQ	\$19.35	17.88	25.40	31.37	12.50	0.080	3/06/02	4/10/02	0.320	1.65
Procter & Gamble	PG	\$92.15	90.55	65.98	93.63 H	61.68	0.380	4/19/02	5/15/02	1.520	1.65
Citigroup	C	\$45.76	45.92	50.55	53.75	34.51	0.180	5/06/02	5/24/02	0.720	1.57
Boeing	BA	\$44.55	47.65	66.59	69.85	27.60	0.170	5/17/02	6/07/02	0.680	1.53
Coca-Cola	KO	\$56.69	52.39	45.90	57.91 H	42.59	0.200	6/15/02	7/01/02	0.800	1.41
United Tech.	UTX	\$70.45	71.85	79.40	87.50	40.10	0.245	5/17/02	6/10/02	0.980	1.39
Johnson & Johnson (s)	JNJ	\$60.24	62.16	97.08	65.89	48.18	0.205	5/21/02	6/11/02	0.820	1.36
☆ AT&T	T	\$13.51	13.55	21.55	23.00	12.66 L	0.038	3/28/02	5/01/02	0.150	1.11
Walt Disney	DIS	\$24.50	23.64	31.10	34.80	15.50	0.210	12/07/01	12/21/01	0.210	0.86
McDonald's	MCD	\$30.06	27.40	27.50	31.00	25.00	0.225	11/15/01	12/03/01	0.225	0.75
American Express	AXP	\$44.87	40.16	41.84	46.55	24.20	0.080	4/05/02	5/10/02	0.320	0.71
IBM	IBM	\$84.50	85.35	113.58	126.39	75.92 L	0.150	5/10/02	6/10/02	0.600	0.71
Wal-Mart Stores	WMT	\$56.77	59.93	52.00	63.94	42.00	0.075	3/22/02	4/18/02	0.300	0.53
Home Depot, Inc.	HD	\$47.00	49.20	50.10	53.73	30.30	0.050	3/14/02	3/28/02	0.200	0.43
Intel Corp.	INTC	\$30.24	28.11	27.20	36.78	18.96	0.020	5/07/02	6/01/02	0.080	0.26
Microsoft Corp.	MSFT	\$54.75	55.69	68.27	76.15	47.50	0.000	-	-	0.000	0.00
☆ AT&T Wireless	AWE	\$7.94	8.25	19.00	19.92	7.31 L	0.000	-	-	0.000	0.00

★ Buy. ☆ Hold. † Based on indicated dividends and market price as of 5/15/02. H New 52-week high. L New 52-week low. (s) All data adjusted for splits. • Excludes extras.

Note: The issues indicated for purchase (★) are the 4 highest yielding issues (other than Philip Morris and General Motors) qualifying for purchase in the top 4-for-18 months model portfolio. The issues indicated for retention (☆) have similarly qualified for purchase during one or more of the preceding 17 months, but do not qualify for purchase this month.

RECENT MARKET STATISTICS

Precious Metals & Commodity Prices

	5/15/02	Mo. Earlier	Yr. Earlier
Gold, London p.m. fixing	308.30	300.10	266.60
Silver, London Spot Price	4.60	4.58	4.34
Copper, COMEX Spot Price	0.74	0.71	0.75
Crude Oil, W. Texas Int. Spot	28.15	24.57	28.98
Dow Jones Spot Index	126.61	121.68	114.32
Dow Jones-AIG Futures Index	99.92	96.15	108.59
CRB-Bridge Futures Index	204.01	197.30	216.00

Interest Rates (%)

U.S. Treasury bills - 91 day	1.75	1.70	3.62
182 day	1.90	1.92	3.69
52 week	2.36	2.41	3.70
U.S. Treasury bonds - 15 year	5.78	5.68	5.92
Corporates:			
High Quality - 10+ year	7.03	6.81	7.24
Medium Quality - 10+ year	7.88	7.63	7.96
Federal Reserve Discount Rate	1.25	1.25	3.50
New York Prime Rate	4.75	4.75	7.50
Euro Rates			
3 month	3.42	3.41	4.79
Government bonds - 10 year	5.09	5.12	4.87
Swiss Rates - 3 month	1.28	1.60	3.19
Government bonds - 10 year	3.28	3.44	3.31

Exchange Rates

British Pound	\$1.459400	1.436600	1.427400
Canadian Dollar	\$0.643200	0.629700	0.646700
Euro	\$0.912400	0.879500	0.883100
Japanese Yen	\$0.007848	0.007609	0.008087
South African Rand	\$0.098600	0.089300	0.125200
Swiss Franc	\$0.626900	0.598900	0.576400

Securities Markets

	5/15/02	Mo. Earlier	Yr. Earlier
S & P 500 Stock Composite	1,091.00	1,102.36	1,249.44
Dow Jones Industrial Average	10,243.68	10,093.67	10,872.97
Dow Jones Transportation Average	2,797.98	2,802.65	2,880.24
Dow Jones Utilities Average	293.90	298.26	385.70
Dow Jones Bond Average	138.56	141.82	101.16
Nasdaq Composite	1,725.56	1,753.78	2,085.58
Financial Times Gold Mines Index	1,287.90	1,144.40	807.87
FT African Gold Mines	2,238.18	1,760.13	928.24
FT Australasian Gold Mines	1,574.46	1,343.61	858.45
FT North American Gold Mines	1,017.02	951.62	758.59

Coin Prices

	5/15/02	Mo. Earlier	Yr. Earlier	Premium
American Eagle (1.00)	\$319.25	308.35	273.35	3.55
Austrian 100-Corona (0.9803)	\$304.23	293.83	260.53	0.66
British Sovereign (0.2354)	\$76.85	74.25	66.15	5.89
Canadian Maple Leaf (1.00)	\$319.50	308.60	273.60	3.63
Mexican 50-Peso (1.2057)	\$375.40	362.60	321.60	0.99
Mexican Ounce (1.00)	\$311.20	300.60	266.50	0.94
S. African Krugerrand (1.00)	\$316.45	305.75	271.35	2.64
U.S. Double Eagle-\$20 (0.9675)				
St. Gaudens (MS-60)	\$345.00	340.00	340.00	15.66
Liberty (Type I-AU)	\$675.00	675.00	675.00	126.30
Liberty (Type II-AU)	\$385.00	385.00	425.00	29.07
Liberty (Type III-AU)	\$332.50	325.00	307.50	11.47
U.S. Silver Coins (\$1,000 face value)				
90% Silver (715 oz.)	\$4,600.00	4,600.00	4,200.00	39.86
40% Silver (292 oz.)	\$1,525.00	1,525.00	1,550.00	13.53
Silver Dollars	\$6,000.00	6,000.00	6,025.00	68.61

Note: Premium reflects percentage difference between coin price and value of metal in a coin, with gold at \$308.30 per ounce and silver at \$4.60 per ounce. The weight in troy ounces of the precious metal in coins is indicated in parentheses.

Recommended Mutual Funds

	Ticker Symbol	5/15/02	Month Earlier	Year Earlier	— 52-Week — High Low	Distributions Latest 12 Months Income Capital Gains	Yield (%)
Short-Term Bond Funds							
★ Fidelity Target Time Line 2003	FTARX	\$9.46	9.46	9.40	9.68 9.38	0.4644	4.91
★ USAA Short Term Bond	USSBX	\$9.34	9.44	9.82	10.04 9.37	0.5884	6.30
★ Vanguard Short-term Corporate	VFSTX	\$10.71	10.75	10.75	11.03 10.69	0.6453	6.03
Income Equity Funds							
★ Duff & Phelps Utilities Income ^{1,2}	DNP	\$11.24	11.32	11.04	11.62 10.20	0.7800	6.94
★ Vanguard REIT Index	VGSIX	\$13.02	13.55	11.61	13.69 11.17	0.6476	4.97
Large Cap. Value Equity Funds							
★ iShares S&P 500 Value Index ³	IVE	\$54.10	54.11	63.25	66.14 46.30	0.8413	1.56
★ Vanguard Value Index	VIVAX	\$18.47	18.49	21.79	22.68 16.41	0.3160	1.71
Small Cap. Value Equity Funds							
★ iShares Sm. Cap. 600 Value Index ³	IJS	\$99.20	97.19	81.60	99.67 66.35	0.6010	0.61
★ Vanguard Sm. Cap Value Index	VISVX	\$11.62	11.42	9.84	11.66 8.14	0.0650	0.56
Growth Equity Funds							
★ iShares S&P 500 Growth Index ³	IVW	\$55.27	56.09	61.95	65.87 48.00	0.4091	0.74
★ Vanguard Growth Index	VIGRX	\$24.47	24.93	27.49	29.23 21.75	0.1970	0.81
Foreign Equity Funds							
★ iShares S&P Europe 350 Index ³	IEV	\$59.98	59.05	68.08	69.63 45.52	0.9307	1.55
★ T Rowe Price European Stock	PRESX	\$16.11	15.77	18.13	18.54 13.07	0.3600	2.23
★ Vanguard European Stock Index	VEURX	\$20.46	19.99	23.01	23.47 16.85	0.4400	2.15

Recommended Gold-Mining Companies

	Ticker Symbol	5/15/02	Month Earlier	Year Earlier	— 52-Week — High Low	Distributions Latest 12 Months Frequency	Yield (%)
Anglo American PLC, ADR ^(s)	AAUK	\$17.55	16.10	16.35	18.63 9.46	0.460	2.62
★ AngloGold Ltd., ADR	AU	\$28.30	23.65	19.40	30.70 15.20	0.649	2.29
ASA Ltd. ¹	ASA	\$35.04	28.15	20.02	37.99 16.95	0.600	1.71
★ Barrick Gold Corp.†	ABX	\$20.76	17.62	17.12	21.94 13.96	0.220	1.06
★ Gold Fields Ltd.	GFI	\$14.13	10.45	4.39	15.26 3.82	0.111	0.79
★ Newmont Mining	NEM	\$27.67	28.30	20.81	30.50 17.97	0.120	0.43
★ Placer Dome†	PDG	\$12.17	11.82	11.02	13.85 8.75	0.100	0.82
★ Rio Tinto PLC‡	RTP	\$80.12	79.50	79.00	86.00 53.70	2.350	2.93

★ Buy. ☆ Hold. (s) All data adjusted for splits. † Dividend shown is after 15% Canadian tax withholding. ‡ Dividend shown is after 15% U.K. tax withholding on a portion of the total. na Not applicable. ¹ Closed-end fund, traded on the NYSE. ² Dividends paid monthly. ³ Exchange traded fund, traded on ASE.

The information herein is derived from generally reliable sources, but cannot be guaranteed. American Investment Services, the American Institute for Economic Research, and the officers, employees, or other persons affiliated with either organization may from time to time have positions in the investments referred to herein.