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Why Gold?

Occasionally, our Professional Asset Management clients ask us why they should continue to hold gold, which as an investment has been dismal since the early 1980s relative to other assets. Our response is that this has been a period of remarkable economic growth and modest price inflation, so gold has been neglected. However, we would no sooner sell gold in this environment than we would recommend canceling a health insurance policy simply because one has enjoyed a period of excellent health.

We continue to recommend gold related assets as an indispensable component of a well-structured portfolio. Many other passive-investment managers reject gold because strict adherence to "mean variance" analysis dictates that the gold price has been far too volatile relative to its long- term returns.

We think this view is far too simplistic. The accompanying article by the World Gold Council corroborates our view that during periods of extreme stress, there is no substitute for gold and, furthermore, it indicates that holding gold is consistent with modern portfolio theory.

AIER's long-time readers do not need mathematical models to be convinced. It was only during the 1970s that the financial world appeared to be collapsing. A severe recession was underway, and skyrocketing price inflation had prompted price controls. The Federal Reserve appeared rudderless and the executive branch had collapsed amid scandal. Communism appeared to be in ascension throughout the world. As these events unfolded, our predecessors were calling for investors to increase their gold holdings. Between 1968 and 1980 the gold price surged from \$35.00 to \$850.00 while the real value of most financial assets plummeted.

Our research tells us that altering a portfolio in anticipation of such developments (i.e. market timing) is inadvisable. Rather, investors should build "all weather" portfolios with adequate exposure to assets with desirable risk/return characteristics. Gold, in this view, is a form of insurance; unlike other asset classes, its value often becomes apparent only *when it is needed*.



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MANAGING PORTFOLIO RISK FOR PERIODS OF STRESS: GOLD'S ROLE IN EFFICIENT PORTFOLIOS

he following article, reprinted from the Gold Portfolio Letter, No. 11, December 2000, World Gold Council (www.gold.org), considers gold as a component in an "optimal" portfolio; that is, a portfolio that provides the maximum expected return for a given level of risk an investor is willing to accept. Though we have discussed the concept before, many readers might find the following primer to be helpful.

The hypothetical chart to the right depicts the logic behind the so-called "efficient frontier." For a given set of assets (e.g. cash, bonds, small-cap stocks), an infinite number of possible portfolios (points on the chart) can be created depending on the percentage allocation assigned to each asset. Points A through F represent the total return

raditional methods of portfolio diversification often fail when they are most needed-that is, during periods of financial "stress" or instability. On these occasions, the correlations and volatilities of return for most asset classes (including traditional diversifiers such as bonds and alternative assets) all increase together, thus reducing the intended "cushioning" effect of a diversified portfolio. Consequently, the portfolio does not perform as originally expected, leaving investors disappointed.

For instance, in the second half of 1998, almost all asset classes underperformed relative to their long-term averages, and many hedge funds (which are often supposed to act as diversifiers) recorded significant losses. The question therefore arises: how can investors diversifv their portfolios effectively and reduce their vulnerability during periods of finan-

cial stress? Answer: change the procedure traditionally used for asset allocation.

Accordingly the World Gold Council recently commissioned a study which uses a new methodology that takes into account the behavior of various assets classes during both stable (non-stress) and unstable (stress) periods. Using this new approach, efficient portfolios are developed whose per-

and volatility (a form of risk measured by standard deviation) that could be expected from six such hypothetical portfolios based on the historical returns of each asset.

In theory, investors should be striving for any portfolio on the frontier, such as point C. Point c represents a portfolio that "dominates" portfolio's A and B, since C has a greater expected return for the same

Efficient Frontier

level of risk. Similarly, points D, E, and F are sub-optimal, since they are "inside" the efficient frontier and portfolios directly "above" them on the frontier have higher expected returns for the same level of risk assumed.

Once "on" the frontier, an investor can achieve a higher expected return only by accepting greater volatility. Such portfolios are therefore said to be "efficient."

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formance is more consistent during both stable and unstable periods. Significantly, the study demonstrates that gold bullion can play a beneficial role in the performance of a wide range of portfolios on the efficient frontier. Indeed, even a small allocation to gold significantly improves the consistency of portfolio performance during stable and unstable financial periods. Greater consistency of performance leads to a desirable outcome-an investor whose expectations are met.

Traditional Diversification Methods Fail When Most Needed

Institutional investors generally make portfolio diversification decisions based on mean-variance optimization. This approach develops "efficient" portfolios that either maximize returns for an acceptable level of risk, or minimize risk without sacrificing returns. The investor then chooses the desired level of risk/return in order to determine the portfolio's asset allocation. The use of mean-variance optimization, however, suffers from a significant defect. It assumes that the correlation of returns and their volatilities are consistent during both stress and non-stress periods. In fact, history shows that portfolio correlations and volatilities become guite unstable during stress periods. If the asset allocation procedure does not take this instability into account, then portfolio performance will be inconsistent with the investor's expectations.

A recent article, "Optimal Portfolios in Good Times and Bad", written by Chow, Jacquier, Kritzman, and Lowery, describes a new optimization procedure which recognizes that periods of stress do

¹ Financial Analyst Journal, May/June 1999: pp. 65-73.







Chart 2: Moderate Risk 6% Gold Portfolio Performs More Consistently Than High and Low-Risk Portfolios

in fact occur. Chow uses a statistical procedure based on a Chi-square distribution to determine which monthly return series in the past 30 years have been "unusual." In his study, a little less than one quarter of the monthly returns were unusual for one or more reasons. These unusual episodes are referred to as "stress" periods. The remaining three-quarters of the return series are referred to as "nonstress," or quiet, periods. Subsequently, Chow develops covariance matrices for both stress and non-stress periods to calculate the correlation and volatility statistics to be used in his optimization procedure.

Gold Helps Reduce Investor Surprise

The goal of the World Gold Council study was to use the Chow approach to create efficient portfolios that would produce similar returns during both stress and non-stress periods. To this end, the returns of various asset classes (including gold) from January 1970 through December 1999 were analyzed. As expected, most asset classes (with the exception of gold) performed poorly during the stress peri-



Chart 3: Cost of Optimizing for the Wrong Environment

Portfolio For Non-Stress Environment (points 1, 2)

Asset Mix	weighting	Asset Mix	weighting	Asset Mix v
Large Cap Equities	98	Large Cap Equities	0	Large Cap Equities
International Equitie	es 2	International Equitie	es 0	International Equities
T-Bills	0	T-Bills	46	T-Bills
L-T Gov Bonds	0	L-T Gov Bonds	16	L-T Gov Bonds
Small Cap Equities	0	Small Cap Equities	9	Small Cap Equities
Gold Bullion	0	Gold Bullion	29	Gold Bullion
	100%		100%	
Point 1		Point 3		Point 6
Expected Returns	15.7%	Expected Returns	16.3%	Expected Returns
Standard Deviation	11.4	Standard Deviation	11.4	Standard Deviation
Point 2		Point 4		Point 7
Expected Returns	6.5%	Expected Returns	6.5%	Expected Returns
Standard Deviation	24.2	Standard Deviation	4.5	Standard Deviation

Portfolio For Stress

Environment (points 3, 4)

ods: their volatilities nearly doubled, and their correlations increased.

To demonstrate, Chart 1 (above) depicts a portion of the "efficient frontier" curve (black line) using Chow's procedure. The portfolios included on the efficient frontier contain the following asset classes: large cap equities, international equities, Treasury bills, long-term Treasury bonds, small cap equities and gold. The assumption made in developing this efficient frontier is that there is an equal likelihood of either a stress or non-stress period occurring. Notably, gold appears in many portfolios along the efficient frontier, ranging from very conservative, lowrisk portfolios (mainly bonds and T-bills) to aggressive, high-risk portfolios (mainly equities).

Next, simulations of future returns were conducted for stress and non-stress periods, for a variety of portfolios on the efficient frontier, to test the consistency of their performance.² Based on the results of these simulations, a portfolio with a moderate expected risk exposure of 11.4% (standard deviation) and an expected annual return of 11.6% was selected (point A) for two reasons. First, this portfolio had relatively consistent results during both stress and non-stress periods. Second, the expected returns were near the level of returns for a typical 60% stock, 40% bond portfolio. Significantly, this efficient portfolio includes a 6% allocation to gold.

When stress conditions were simulated on the 6% gold portfolio (point A), the return was 10.8% (point B)-only 60 basis points lower than the expected return of 11.6% for point A-and the standard deviation was 16.1%. Similarly, when non-stress conditions were simulated the return was 12.1% (point C)-50 basis points higher than expected in point Aand the standard deviation was 6.8%. Thus, the selected portfolio with a 6% gold weighting enjoyed generally similar returns regardless of whether the environment was stress (point B) or non-stress (point C)—a desirable result.

Chart 2 compares the performance of the moderate-risk 6% gold portfolio with both higher and lower levels of expected risk and return during both stress and non-

Portfolio For Both En-

vironments (points 5, 6, 7)

weighting

Ž7

23

21

14

9

6 100%

12.1%

6.8

11.6%

16.1

² A Monte Carlo simulation using GARCH techniques was conducted for 5,000 5year periods of stress and non-stress to provide a broad representation of how the portfolios would perform over a typical five-year period.

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stress environments. The low-risk portfolio (mostly T-bills) had a lower return and volatility during non-stress periods, but a higher return and volatility during stress periods. On the other hand, the high-risk portfolio (mostly equities) had a higher return and lower volatility during non-stress periods, but a lower return and higher risk during stress periods. High-risk investors are therefore more likely to be disappointed during stress periods. Finally, the moderate-risk portfolio with 6% gold, performs closest to the expected returns during both stress and non-stress periods. This portfolio is therefore less likely to result in unpleasant surprises for the investor.

Cost of Optimizing for the Wrong Environment

It follows that if an investor could correctly forecast the timing of stress periods, portfolios could be developed for optimum performance. These portfolios would contain significant amounts of gold and fixed-income securities. On the other hand, if a non-stress period were expected, the portfolios would emphasize equities and contain little or no gold. Unfortunately, most investors cannot accurately forecast the timing of stress periods. This is a significant consideration for portfolio managers since the cost of being wrong is high. A more robust strategy (to endure both stress and non-stress periods) is, therefore, needed.

For example, as illustrated in Chart 3, if the investor uses non-stress period assumptions to develop an efficient portfolio with a risk level of 11.4% (the same level used in the previous examples), the portfolio would consist of 100% equities and have an expected annual return of 15.7% (point 1). If, however, the environment turns out to be one of stress, the return would amount to only 6.5% with a high volatility of 24.2% (point 2) or over twice the level originally expected. Such results would no doubt disappoint the investor.

Conversely, if the investor uses stress period assumptions, the portfolio would have a 29% weighting in gold and over 62% in T-bills and bonds, with an expected annual return of 16.3% (point 3). However, if the environment turned out to be one of non-stress, the volatility of this portfolio would decrease to 4.5% and the compound returns would decline to 6.5% (point 4). In this case, while the portfolio's volatility would be significantly lower than forecast, the return would be disappointing for the investor.

In order to mitigate the two disappointing outcomes described above, a more robust portfolio strategy (to endure both stress and non-stress periods) is needed. The portfolio with a 6% gold allocation (point 5) designed to perform well for both environments yields more consistent rateof-return results (points 6 and 7) and is more likely to meet investor expectations.

Conclusion

When Chow's technique is used for developing efficient portfolios, it is evident that gold qualifies as a truly effective risk management tool. The moderate-risk portfolio in this study with a gold weighting of 6% yields consistent, predictable returns during both stress and non-stress periods. Thus, gold's ability to diversify helps investors meet their expectations for portfolio performance.

WILL THE BUSINESS SLOWDOWN BECOME A RECESSION?

According to AIER, our parent organization, their statistical indicators of business cycle changes have deteriorated markedly during the past month. The latest data on AIERs six primary coincident indicators sug-





its high for the cycle. The other five have decreased from recent peaks.

GDP is popularly associated with the identification of business expansion and contraction. A recession is often described in the media as two consecutive quarters of decreases in constant-dollar GDP. Thus it may seem strange that we raise the possibility that a recession may eventually be deemed to have begun during the first quarter of 2001 when the current estimate is that "real" GDP grew at a 2 percent rate then. Bear in mind that, after seasonal adjustment, an estimated 2 percent annual rate only amounts to about 1/2 of 1 percent for the quarter. When the "bean counters" have finished, a different picture can emerge.

This is especially so at turning points. For example, the preliminary estimate of GDP for the third quarter of 1990 (July 1990 is now deemed to have been a business-cycle peak) was a 2.1 percent rate of increase. After revisions, output is now estimated to have *decreased* at a 1.0 percent rate in that quarter. This uncertainty at turning points is also why AIER does not engage in quantitative macroeconomic forecasts. Such forecasts tend to be most in error at turning points, which is when accurate information is most

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needed. The identification of turning points is difficult enough, and probably is more useful than the predictions of even the most elaborate forecasting model.

The leading indicators do not offer much for the optimists. Only one of AIER's 12 primary leaders, the M2 money supply, is clearly expanding while six of the others are appraised as clearly contracting. The primary lagging indicators reflect factors that can choke off economic expansions. These series typically continue to expand well past business-cycle peaks, but they also have weakened during recent months, which is unusual.

AIER's appraisal of the statistical indicators involves much more than simply "eyeballng" charts of the data. It is based on a rigorous evaluation of the behavior of each series during prior cycles. The process does involve elements of human judgment and human error. To supplement the basic findings of the research staff, the most current data is processed by a computer to calculate the cyclical score. Unlike the percent of AIER leaders expanding series, which is a permanent record of the deliberations of the professional staff, the entire history of the cyclical score is recalculated each and every month. No human judgement at all is involved, beyond the selection of which series to put into the computer and the designation of the number of months needed to establish a trend.

AIER's cyclical score only decreased below 50 this month, whereas the percent expanding series has been below 50 since December. As a result, a contraction of general business activity would appear to be more likely than continued or resumed expansion.

What Could Keep Us Out of a Recession?

That said, the contraction could be relatively short-lived, perhaps even short enough to escape classification as an official recession by the National Bureau of Economic Research.

As noted above, the relatively prompt weakening of the lagging series suggests that any contraction could be over quickly



Source: Federal Reserve Bank of St. Louis

and not involve significant economic declines. For example, manufacturing and trade inventories began to contract around the turn of the year. This perhaps partly reflects better controls provided by computers and "just in time" inventory practices. It appears more likely to us, however, to be a reflection of the contraction of the goods-producing sector that began last fall, but (because of the long-term decline of that sector relative to others) did not immediately bring down total output and employment.

Aside from the inventory situation, most of the other favorable signs are mainly a reflection of Federal Reserve policies. Interest rate cuts made headlines, but the significance of those cuts is not so much that borrowers will pay less but that their savings will earn less. The very short-term rate that the Fed actually targets, Federal Funds, is reduced by the Fed only to the extent that it stands ready to create enough new money "out of thin air" to bring the rates down to the target level. Since Alan Greenspan's early January surprise announcement of lower rates (followed by additional cuts during recent months), liquidity has simply exploded in the United States.

There are many ways of measuring this. We have shown the St. Louis Fed's weekly series "Money of Zero Maturity" (MZM) in the chart above. This series includes dollar claims that can be spent by its holder immediately. As indicated in the chart, thus far in 2001, this measure of liquidity has increased at nearly *triple* the rate of the preceding two years. An acceleration of monetary expansion has been the Fed's usual antidote to recessions. This time it has come much sooner, even before it is generally acknowledged that we are in a recession, and in an exceptionally large dose, a rate that is clearly unsustainable for long.

It may be that the Fed's sudden burst of monetary creation will save the day, nipping economic contraction in the bud, but it also has the potential to upset the apple cart by precipitating a flight from the dollar.

The danger is that continued U.S. inflating at the recent rate could change foreigners' seemingly insatiable appetite for dollar holdings. This has financed our huge trade deficits and has strengthened the dollar against other currencies. The strong dollar has restrained price inflation in the United States, directly via the prices of imported goods and indirectly whenever foreign competition has kept domestic producers from raising prices. The gold price has picked up very recently, the spread between the rates on indexed and non-indexed treasuries has widened, and U.S. long-term interest rates changed little even as short-term rates plunged. Some analysts are citing such development as evidence of mounting inflationary expectations, which could eventually lead to a flight from the dollar.

NEWLY RECOMMENDED FUNDS													
	Ticker Symbol	5/15/01	Month Earlier	Year Farlier	— 52-W Ніяр	Veek —	Distributions	Latest 12 Months	Yield				
iShares Index Funds:	Symbol	3/13/01	Lamer	Lanner	1 11511	LOW	meonie	Capital Gains	(70)				
S&P SmallCap 600/BARRA Value	IJS	81.60	76.24	na	85.62	66.63	0.48	0.34	0.59				
S&P 500/BARRA Value	ÍVE	63.25	60.38	na	67.00	55.00	0.64	0.15	1.01				
S&P 500/BARRA Growth	IVW	61.95	57.88	na	94.25	52.88	0.36	0.11	0.58				
S&P Europe 350	IEV	68.08	66.80	na	80.75	59.02	0.36	0.00	0.53				
Vanguard Value Index	VIVAX	21.79	20.79	21.35	23.89	19.55	0.28	0.87	1.28				
Vanguard Sm. Cap. Value Index	VISVX	9.84	9.16	7.96	10.70	7.93	0.32	0.33	3.25				

THE HIGH-YIELD DOW INVESTMENT STRATEGY

 $\mathbf W$ e 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 vielding 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 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 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, with Toward an Optimal Stock Selection Strategy," 139 pp. \$9.)

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 nearly 8 years, Philip Morris has never ranked lower than fourth on the list whatever its ups and downs. And unless it is specifically excluded using Philip Morris in the strategy amounts to a "buy-and-hold" approach under these conditions. 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 month 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 midmonth closing prices, plus or minus \$0.125 per share. This month, the strategy calls for selling the portion of the holdings of **Caterpillar** and **Minnesota Mining and Manufacturing** that were purchased in November 1999 to buy **Dupont** and **International Paper**. The other two issues eligible for purchase this month, Eastman Kodak and JP Morgan Chase, were also eligible for purchase 18 months ago, and they are retained in the strategy, after some minor purchases and sales to ensure that this month's commitment to each of the four eligible issues is of equal value.

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 percentages below only when commissions are less than 1% 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., "all at once" could be construed as prediction that, and will look good in retrospect only if, the

-Percent of Portfolio*—

As of May 15, 2001

	Rank	Yield	Price	Status	Value	e No. Shares‡‡
Philip Morris	1	4.16%	50.92	*	-0-	-0-
Eastman Kodak	2	3.72%	47.27	Holding**	19.1	18.6
General Motors	3	3.66%	54.61	*	-0-	-0-
Dupont	4	2.99%	46.75	Buying	16.0	15.8
JP Morgan Chase	5	2.88%	46.75	Holding**	15.9	15.5
Int'l Paper	6	2.65%	37.70	Buying	11.6	14.2
Caterpillar	7	2.56%	53.14	Selling	27.3	23.6
SBC Comm.	8	2.35%	43.35	Holding	1.2	1.2
Proctor and Gamb	le 9	2.12%	65.98	—	—	—
Minn.Mng.& Mfg.	10	2.03%	118.15	Selling	4.6	1.8
A.T.&T.	24	0.70%	21.55	Holding	<u>4.4</u>	<u>9.3</u>
					100.0	100.0
Change in Portfolic	o Value	#				
						From Std.
	1 ma	о. 1 yr	. 5 yrs.	10 yrs.	15 yrs.	12/63 Dev.
Strategy	7.9%	% 20.2%	6 18.3%	20.1%	19.2%	16.8% 19.0
Dow	7.5%	6 3.0%	6 15.7%	16.5	15.7%	11.5% 17.1

* 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 very exacting stock selection strategies. They do not reflect returns on actual investments or previous recommendations of AIS. Past performance may differ from future results.

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 word, 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 situation, the investor would have been better off if he had waited.

Accordingly, for new HYD clients, we usually purchase the full complement of the currently eligible stocks immediately. (This month, the four eligible issues— DuPont, Eastman Kodak, International Paper and JP Morgan Chase—account for about five-eighths 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.

AT&T is something of a special situation. The current holdings in the strategy were acquired last fall, before the company slashed its dividend. The company's problems (see the December **INVESTMENT GUIDE**), continue to be reflected in its stock price. Yet, when the time comes to sell the strategy's holdings in the spring of 2002, it is quite possible that the shares (including prospective spin-offs) will be worth more than they are now. We have been buying AT&T for new clients but, because it is not now eligible for purchase, a case could be made that it should be left out of an initial commitment at this time.

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

						—— La	atest Divide	— Indicated —			
	Ticker	/	Market Pric	es ———	— 12-M	onth —		Record		Annual	Yieldt
	Symbol	5/15/01	4/12/01	5/15/00	High	Low	Amount	Date	Paid	Dividend	(%)
Philip Morris	́мо	\$50.92	45.89	27.38	53.88 <i>H</i>	23.00	0.530	3/15/01	4/10/01	2.120	4.16
★ Eastman Kodak	EK	\$47.27	42.48	57.25	65.69	35.31	0.440	6/01/01	7/02/01	1.760	3.72
‡ General Motors	GM	\$54.61	53.10	86.44	90.06	48.44	0.500	5/11/01	6/09/01	2.000	3.66
★ DuPont	DD	\$46.75	45.65	52.31	54.13	38.19	0.350	5/15/01	6/12/01	1.400	2.99
★ J. P. Morgan Chase	JPM	\$47.28	45.37	35.68	58.38	32.38	0.340	4/06/01	4/30/01	1.360	2.88
★ International Paper	ÍP	\$37.70	36.48	40.25	43.31	26.31	0.250	5/18/01	6/15/01	1.000	2.65
☆ Caterpillar '	CAT	\$53.14	47.01	40.56	54.01 <i>H</i>	29.00	0.340	4/23/01	5/19/01	1.360	2.56
☆ SBC Ċomm.	SBC	\$43.35	41.18	46.00	59.00	38.38 <i>L</i>	0.256	4/10/01	5/01/01	1.025	2.36
Procter & Gamble	PG	\$65.98	58.80	64.88	79.31	53.25	0.350	4/20/01	5/15/01	1.400	2.12
☆ Minn. Min. & Mfg.	MMM	\$118.15	107.73	85.94	122.94	80.44	0.600	5/18/01	6/12/01	2.400	2.03
Exxon Mobil	XOM	\$89.45	82.00	83.63	95.44	75.13	0.440	5/14/01	6/11/01	1.760	1.97
Merck	MRK	\$75.90	79.50	69.63	96.69	63.00	0.340	3/09/01	4/02/01	1.360	1.79
Coca-Cola	КО	\$45.90	44.57	51.75	64.00	42.37	0.180	6/15/01	7/01/01	0.720	1.57
Honeywell Intl.	HON	\$50.31	43.45	55.56	59.13	32.13	0.188	7/09/01	7/25/01	0.750	1.49
Johnson & Johnson	JNJ	\$97.08	90.95	86.25	105.94	80.50	0.180	5/22/01	6/12/01	1.440	1.48
Alcoa (s)	AA	\$42.00	38.99	33.94	42.50 <i>H</i>	23.13	0.150•	5/04/01	5/25/01	0.600•	1.43
General Electric	GE	\$50.15	44.70	54.00	60.50	36.42	0.160	3/07/01	4/25/01	0.640	1.28
Hewlett-Packard (s)	HWP	\$25.40	30.62	67.00	68.09	25.00 <i>L</i>	0.080	6/20/01	7/11/01	0.320	1.26
United Tech.	UTX	\$79.40	75.38	64.06	82.50	54.00	0.225	5/18/01	6/10/01	0.900	1.13
Citigroup (s)	С	\$50.55	47.30	62.88	59.13	39.00	0.140	5/07/01	5/25/01	0.560	1.11
Boeing	BA	\$66.59	60.50	37.19	70.94	36.25	0.170	5/11/01	6/01/01	0.680	1.02
McDonald's	MCD	\$27.50	26.89	38.19	39.94	24.75	0.215	11/15/00	12/01/00	0.215	0.78
American Express	AXP	\$41.84	39.19	52.19	63.00	34.00	0.080	4/06/01	5/10/01	0.320	0.76
☆ AT&T	Т	\$21.55	21.78	38.69	39.19	16.50	0.038	3/30/01	5/01/01	0.150	0.70
Walt Disney	DIS	\$31.10	29.09	40.81	43.00	26.00	0.210	12/08/00	12/22/00	0.210	0.68
Wal-Mart Stores	WMT	\$52.00	49.70	57.00	62.94	41.44	0.070	3/23/01	4/09/01	0.280	0.54
IBM	IBM	\$113.58	96.20	104.19	134.94	80.06	0.140	5/10/01	6/09/01	0.560	0.49
Home Depot, Inc.	HD	\$50.10	41.65	56.50	60.00	34.69	0.040	3/08/01	3/22/01	0.160	0.32
Intel Corp. (s)	INTC	\$27.20	28.12	59.07	75.81	22.25	0.020	5/07/01	6/01/01	0.080	0.29
Microsoft Corp.	MSFT	\$68.27	62.18	69.38	82.88	40.25	0.000	-	-	0.000	0.00
Chevron	CHV	Chevron an	id Goodvea	ar and Sears.	. Roebuck ar	e no longe	er DIIA con	nponents an	d therefore h	ave been sole	d

Chevron CHV Chevron and Goodyear and Sears, Roebuck are no longer DJIA components and therefore have been sold Goodyear GT from the 4-for-18 model during the previous 18 months. Investors following the model should have no shares remaining at this time.

★ BUY. \Rightarrow HOLD. **†** Based on indicated dividends and market price as of 5/15/01. *H* New 52-week high. *L* New 52-week low. (s) All data adjusted for splits. • Excludes extras. **‡** This issue had been recommended for purchase under our original HYD stock selection strategy because it had ranked among the 10 highest yielding issues for more then 12 months. Shares should be retained by readers who currently hold them.

Note: The issues indicated for purchase (\star) 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 (\ddagger) 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	s Metals &	Commo	dity Prices		Securities Markets							
5/15/01 Mo. Earlier Yi						Mo. Earlier	Yr. Earlier					
Gold, London p.m. fix	king	266.60	259.25	275.05	S & P 500 Stock Composite		1,249.44	1,183.50	1,452.36			
Silver, London Spot Pi	rice	4.34	4.37	4.99	Dow Jones Industrial Average	1	0,872.97	10,126.94	10,807.78			
Copper, COMEX Spot	Price	0.75	0.76	0.84	Dow Jones Transportation Aver	age	2,880.24	2,766.59	2,838.04			
Crude Óil, W. Texas I	nt. Spot	28.98	28.25	29.93	Dow Jones Utilities Average	0	385.70	383.53	332.29			
Dow Jones Spot Index	(114.32	106.15	119.68	Dow Jones Bond Average		101.16	101.15	93.49			
Dow lones-AIG Future	es Index	108.59	109.20	102.70	Nasdaq Composite		2,085.58	1,961.43	3,607.65			
CRB-Bridge Futures In	ndex	216.00	214.35	219.98	Financial Times Gold Mines Ind	ex	807.87	696.39	805.65			
8					FT African Gold Mines		928.24	813.67	844.47			
					FT Australasian Gold Mines		858.45	713.32	767.32			
	Interest F	Rates (%)		FT North American Gold Min	es	758.59	653.37	798.80			
U.S. Treasury bills -	91 day	3.62	3.98	6.10								
,	182 day	3.69	4.09	6.52	(Coin Price	s					
	52 week	3.70	4.11	6.36		5/15/01	Mo Farlier	· Yr Farlier	Premium			
U.S. Treasury bonds -	15 year	5.92	5.66	6.63	American Fagle (1,00)	\$273.35	265 35	284 65	2 53			
Corporates:	,				Austrian 100-Corona (0.9803)	\$260.53	252.93	270.43	-0.31			
High Quality -	10+ year	7.24	7.11	7.80	British Sovereign (0.2354)	\$66.15	64.35	68.55	5.41			
Medium Quality -	10+ year	7.96	7.89	8.34	Canadian Maple Leaf (1.00)	\$273.60	265.60	284.10	2.63			
Federal Reserve Disco	ount Rate	3.50	4.50	5.50	Mexican 50-Peso (1.2057)	\$321.60	312.30	333.90	0.05			
New York Prime Rate		7.50	8.00	9.00	Mexican Ounce (1.00)	\$266.50	258.80	276.70	-0.04			
Euro Rates	3 month	4.79	4.56	4.30	S. African Krugerrand (1.00)	\$271.35	263.55	281.65	1.78			
Government bonds -	0 10 year	4.87	4.70	5.27	U.S. Double Eagle-\$20 (0.9675)						
Swiss Rates -	3 month	3.19	3.24	3.12	St. Gaudens (MS-60)	\$340.00	345.00	375.00	31.82			
Government bonds -	 10 year 	3.31	3.21	na	Liberty (Type I-AU)	\$675.00	675.00	675.00	161.69			
					Liberty (Type II-AU)	\$425.00	425.00	435.00	64.77			
		D (Liberty (Type III-AU)	\$307.50	312.50	335.00	19.22			
	Exchang	ge Rates			U.S. Silver Coins (\$1,000 face v	/alue)						
British Pound	\$1	.427400	1.438600	1.498900	90% Silver (715 oz.)	\$4,200.00	4,200.00	4,200.00	35.35			
Canadian Dollar	\$0	.646700	0.641500	0.672700	40% Silver (292 oz.)	\$1,550.00	1,550.00	1,610.00	22.31			
Euro	\$0	.883100	0.890800	0.907100	Silver Dollars	\$6,025.00	5,675.00	6,200.00	79.45			
Japanese Yen	\$0	0.008087	0.008083	0.009167	Note: Premium reflects percentage	difference be	etween coin pr	ice and value	of metal in a			
South African Rand	\$0).125200	0.124500	0.141400	coin, with gold at \$266.60 per our	ice and silve	r at \$4.34 per	ounce. The v	veight in troy			
Swiss Franc	\$0	0.576400	0.585800	0.584300	ounces of the precious metal in coi	ns is indicat	ed in parenthe	ses.				

Selected Mutual Funds

	Ticker	r A		Year	— 52-V	Veek —	Distributions La	Distributions Latest 12 Months	
	Symbol	5/15/01	Earlier	Earlier	High	Low	Income	Capital Gains	(%)
★ Duff & Phelps Utilities Income	DNP	\$11.04	10.77	9.19	11.19	9.00	0.7800	0.0000	7.07
★ T Rowe Price European Stock	PRESX	\$18.13	17.84	22.78	24.22	16.09	0.1600	1.4200	0.88
★ Vanguard European Stk Index	VEURX	\$23.01	22.78	27.22	29.00	20.46	0.4330	0.0000	1.88
★ Vanguard REIT Index	VGSIX	\$11.61	11.16	10.93	11.98	10.67	0.8000	0.0000	6.89
★ Vanguard Growth Index	VIGRX	\$27.49	25.78	38.25	41.81	23.76	0.1250	0.0000	0.45
★ Fidelity Target Timeline 2003	FTARX	\$9.40	9.41	8.90	9.47	8.88	0.6324	0.0000	6.73
★ USAA Short Term Bond	USSBX	\$9.82	9.80	9.58	9.87	9.55	0.6523	0.0003	6.64
★ Vanguard Short Term Corp	VFSTX	\$10.75	10.72	10.35	10.83	10.33	0.7129	0.0000	6.63

North American and Diversified Mining Companies

	Ticker Symbol		Month Earlier	Year Earlier	— 52-И High	Veek — Low	Indicated Annual Net Dividends	Payment Schedule	Yield (%)
Agnico-Eaglet	AEM	\$8.19	7.12	6.31	8.42	4.88	0.020	Annual	0.24
★ Barrick Gold Corp.†	ABX	\$17.12	15.45	18.50	20.00	12.31	0.220	Semiannual	1.29
Freeport-McMoran C&G, Cl.A	FCXA	\$13.03	12.35	10.69	13.20	6.75	0.000	-	0.00
★ Homestake Mining	HM	\$6.65	6.00	7.25	7.63	3.50	0.050	Semiannual	0.75
★ Newmont Mining	NEM	\$20.81	16.55	25.31	26.50	12.75	0.120	Quarterly	0.58
★ Placer Domet	PDG	\$11.02	9.60	9.00	11.34	7.25	0.100	Semiannual	0.91
★ Rio Tinto PLC‡	RTP	\$79.00	76.20	67.13	82.69	55.13	2.300	Semiannual	2.91

South African Mining Companies, Finance Houses and Investment Trusts

		Ticker	- (4 - (6 4	Month	Year	— 52-W	Veek —	A	DR Net L	Dividends•		Yield
		Symbol	5/15/01	Earlier	Earlier	High	Low	and Ex-Dividend Dates			(%)	
	ASA Ltd.	ASA	\$20.02	16.70	15.94	20.50	14.06	-	-	-	0.600°	3.00
	Anglo American PLC ²	AAUK	\$16.35	15.45	11.28	17.22	10.19	9/20/00	0.580	6/05/01	1.280	11.38
★	Anglogold Ltd. ³	AU	\$19.40	16.38	19.75	22.06	12.25	8/09/00	0.511	2/21/01	0.399	4.69
	Avgold Ltd.	AVGLY	\$6.18	5.10	4.97	6.18	3.11	1	√o Divide	ends Decla	red	
	De Beers Consolidated Mines	DBRSY	\$44.27	40.05	21.25	44.58	20.13	9/13/00	0.345	3/21/01	0.928	2.88
	Gencor Ltd.	GNCRY	\$4.18	3.55	2.69	4.47	2.28	9/13/00	0.164	3/07/01	0.461	14.95
★	Gold Fields Ltd. ⁴	GOLD	\$4.39	4.21	3.19	4.75	2.56	2/16/00	0.026	2/16/01	0.119	3.30

★ 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. • Paid or announced last 12 months. ° Total dividend paid in latest 12 months. ¹ Closed-end fund—traded on the NYSE. Dividends paid monthly. ² Anglo American Gold Inv. Co. merger in Anglo American plc. ³ Formerly Vaal Reefs plus interests in Free State, Western Deep, Ergo, Elandsrand and others. 2 ADRs = 1 ordinary share. ⁴ Gold Fields Ltd. and Driefontonein Consolidated merged to form Gold Fields, Ltd. e Estimated.

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.