AIS INVESTMENT GUIDE

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* See box, page 46, for representative indexes.

Rates of Interest
As of June 22, 2018

Government Obligations[1]	
Fed Funds Rate	1.92%
3-Month Treas. Bill	1.90%
10-Yr. Treas. Note	2.90%
30-Yr. Treas. Bond	3.04%
10-Yr. TIPS	0.79%
Muni Bonds - Nat'l 10-Yr.	2.40%
Mortgage Rates[2]	
15-Yr Fixed	4.04%
30-Yr Fixed	4.57%
Banking[3]	
Savings	0.07%
Money Market	0.12%
12-month CD	0.40%

[1] Federal Reserve, fmsbonds.com. Annualized Rates. Notes, bonds, TIPS reflect yield to maturity.
[2] Freddie Mac. Average (National average, 15-year mortgages with 0.4 points, 30-year mortgages with 0.5 points).
[3] FDIC. Average national rates, non-jumbo deposits (<$100k).

Investment Decisions Within Your Control

Global stock market prices have fallen recently amidst news of a possible trade war, rising interest rates, higher oil prices, divisive politics and a myriad of other headlines. While others try to divine what it all means for the future, we'll take a pass, and we encourage you to do so as well.

Wise investors focus instead on matters within their control. This month we address two such situations that we encounter frequently when working with our clients. Both present clear choices, some of which entail pitfalls that astute investors can avoid.

The first article describes "a good problem to have." Investors often come to us seeking guidance regarding how quickly they should invest a large, non-recurring lump sum of cash. We analyze market history to assess the implications of investing all at once versus the alternative of doing so gradually.

The second article describes another common situation. Prospective clients often come to us with portfolios that include equity holdings overly concentrated in a small number of stocks -- sometimes in just a single firm. In this article we examine the reasons investors choose to maintain these positions and describe a rational framework for assessing the risk this poses. We propose alternatives consistent with a rational long term financial plan.

New Gold ETFs

Two new gold based ETFs have recently hit the market. This is good news for investors, as both have undercut the expense ratios of existing funds.

The ETFs we have long recommended, GLD and IAU, have expense ratios of 0.40 percent and 0.25 percent, respectively. The first new ETF, GraniteShares Gold Trust (symbol BAR) was launched last year. Assets under management have skyrocketed to $251 million (as of this writing), following a $130 million inflow in June. The second new fund comes from ETF behemoth SPDR. The SPDR Gold MiniShares ETF – ticker GLDM – came to market in June with an expense ratio of 0.18 percent. As of this writing, GLDM had already amassed $27.5 million in AUM.

It is important to look beyond expense ratios by also considering the implicit cost of bid-ask spreads. Based on recent spreads, the "all-in" cost of the newcomers is lower compared with IAU and GLD.

BAR's price is based on 1/10th of the per-ounce gold price so a single share of the ETF currently costs about $125. GLDM is based on 1/100th the price of gold, so its price per share is about $12.50.

Like IAU and GLD, both BAR and GLDM hold physical gold bars held in a vault so they track the gold spot price, rather than a proprietary index.

We recommend both BAR and GLDM as a lower cost alternative to IAU and GLD. Next month we will provide further detail and both will appear on our list of recommended funds on the back page. Current owners of IAU or GLD should not swap their holdings in favor of BAR or GLDM until they have assessed any taxable gains that might be realized.

HOW TO INVEST A LUMP SUM: INVEST NOW, OR OVER TIME?

We are frequently asked whether it is better to invest a lump sum of cash all at once or in a gradual, methodical fashion, referred to as "dollar-cost averaging" (DCA). It is not uncommon for investors, even those of modest net worth, to confront this situation. Over a lifetime there is a good chance a household might receive a lump sum and plan to invest it for the future. We often encounter clients with a large sum of cash to invest -- from a variety of sources such as an inheritance, severance pay, a divorce settlement or the sale of a home.

DCA simply refers to investing an equal dollar amount at fixed intervals of time. The idea is to get a better "average price" by taking advantage of volatility. Proponents of dollar cost averaging often present an example such as the following. An individual has $1,500 to invest. He can invest $500 per month for three months or he can invest the $1,500 all at once. Suppose that initial purchase price is $20 per share, and that the price increases by $10 per month, so that the price series is $20, $30, and $40. The average of these prices is $30.

Table 1 shows that with dollar cost averaging, the investor winds up with 54.17 shares, so that the average purchased cost per share is $27.69 ($1,500 / 54.17), which is about 8 percent less than the average share price of $30.

While intuitively appealing, this simple analysis fails to point out that the investor would have been far better off had he invested the $1,500 immediately. In that case he would have purchased 75 shares that would be worth $3,000 at the end of the three months versus 54.17 shares worth $2,167 under DCA.

Perceptive readers might cry foul, since we have contrived an example with rising prices. Stock prices in reality often fall over the short term, in which case DCA would be the superior strategy.

Table 1 Dollar Cost Averaging

Monthly Investment	Price per share	Shares Purchased
$500	$20	25
$500	$30	16.67
$500	$40	12.5
	Total	54.17

Table 2 Win Rates and Median Ending Wealth, 5-year Rolling Returns Jan. 1926 - Apr. 2013 (1,048 observations)

	100% Stock Portfolio		60% Stock / 40% Bond Portfolio	
	Win Rate	Median Wealth at End of period	Win Rate	Median Wealth at End of period
Strategy #1: Invest 100% immediately	67.6%	$16,766	71.5%	$15,099
Strategy #2: Invest over 12 months	18.2%	$16,213	16.1%	$14,621
Strategy #3: Invest over 3 years	14.2%	$14,794	10.0%	$13,506

But the fact is, while security prices change unpredictably over short term intervals, they trend upward over time. Therefore, we submit that investors who have a truly long-run view, and who construct a portfolio that is well-diversified across asset classes, should generally not be afraid to "take the lump sum plunge" rather than embrace DCA. A look at market history bears this out.

Numbers Please…

Our analysis utilizes data for the S&P 500 as a proxy for stocks and 5-Year U.S. Treasury Notes for bonds. We use these indexes because data are available dating back to 1926. All returns assume the reinvestment of dividends and interest, quarterly rebalancing to target weights, and do not include advisory fees, mutual fund expenses, or transaction costs.

We tested three potential strategies for investors with cash available for investment. Strategy #1 invests as soon as the cash is available (immediate investment). Strategy #2 invests the cash gradually -- one-twelfth of the cash is invested at one month intervals for 12 months (1 year horizon). Strategy #3 invests even more gradually, with one-twelfth invested over 12 quarters (3 year horizon).

In all three scenarios we considered a 100 percent stock portfolio as well as a more conventional 60 percent stock/40 percent bond portfolio.

"Win Rates"

We first considered which strategy created the most wealth at the end of a 5-year period for a hypothetical investor with $10,000 to invest. Between January 1926 and April 2013 there were 1,048 hypothetical starting months and subsequent five-year spans.[1]

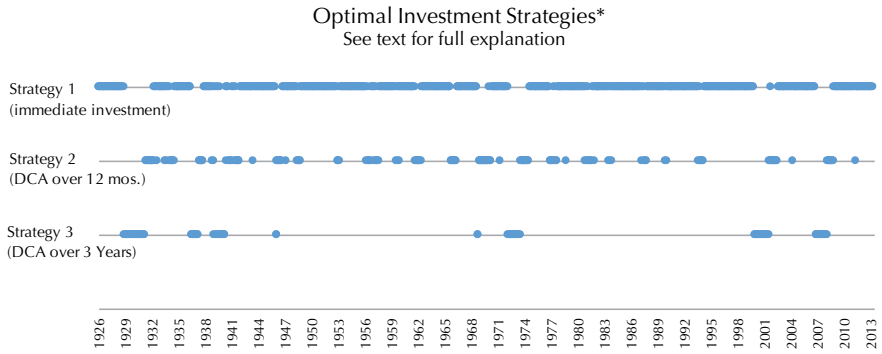
The "win rate" in Table 2 shows the percentage of five year spans when a particular strategy was dominant. For an all-stock portfolio, Strategy #1 (investing immediately) was the superior strategy about two-thirds of the time (this is similar to findings derived from external research in the U.S., U.K., and Australian capital markets.)[2] For the more diversified 60/40 portfolio, Strategy #1 (immediate investing) dominated more than 70 percent of the time.

This supports our contention that, in a world in which market returns are unpredictable, investors are generally better off investing immediately.

The chart nearby depicts those periods when each strategy was dominant. Each blue dot represents a starting month when the indicated strategy was optimal. The preponderance of the dots are on the line for Strategy #1. There are, however, sporadic periods where some amount of dollar-cost averaging would have been advantageous, most notably right before the Great Depression, dot-com bubble, and financial crisis. This is obvious, but only in hindsight.

Uncertainty and the Worst Case

This initial analysis is inadequate in two respects. First, while it considers the ending wealth in all cases, it fails to consider the range of those outcomes. That is, it fails to consider that some investors put high priority regarding the *certainty* of their ending portfolio values, even if it might mean giving up more on the upside. Second, it fails to consider that some investors prioritize "limiting



* Blue dot indicates optimal strategy for year indicated. Due to the large number of observations, optimal strategies unavoidably appear to coincide in some years. Generally however it is clear that Strategy 1 (invest immediately) has predominated.

the downside" of losses they might suffer in the event poor market returns prevail.[3]

Table 3 addresses both of these concerns.

The range of outcomes – represented in the table by standard deviation – is narrower with dollar-cost averaging strategies. Both the 100 percent stock and 60/40 portfolios provide more narrow ranges of outcomes with DCA versus immediate investment. This suggests that investors who want a more certain outcome might benefit from DCA, even if it may limit the potential upside depicted in earlier tables.

In terms of limiting the downside we examined the 5th percentile of returns. For the 100 percent stock portfolio, both DCA strategies provide a better result versus immediate investment, and the most gradual strategy is optimal (the $10,000 starting value falls to only $8,101).

However, in the case of a 60/40 portfolio, immediate investment is superior. The ending value after five years actually shows a modest gain to $10,030 even in this 5th percentile scenario. This suggests that investors who prioritize limiting their potential portfolio losses needn't worry so much about how quickly to invest their lump sum, as long as their portfolio is well diversified. This more realistic assessment has been overlooked in other research, which tends to test 100 percent stock portfolios.

What if Markets are on a Roll?

Investors can be especially reluctant to invest a lump sum when stock markets have generally been strong, because they are fearful a reversal is imminent. So we looked at market history to see whether investing after periods of above-average market returns would have any impact on our outcomes.

Specifically, we looked at which strategy provided the highest win rate, but during only those instances when the stock market had risen by at least 25 percent in the previous 12 months. This reduced our observations to only 274, or roughly one quarter of our original data set. The most recent point was September 2012, when the market had risen by 30.2 percent over 12 months.

Remarkably, under these criteria it is *even more advantageous* (based on win rates) to invest immediately. Strategy #1 was the optimal strategy in three of four instances for a 100 percent stock portfolio and four in five instances for diversified stock/bond investors. In other words, a rapidly appreciating stock market has historically been no reason to invest more gradually.

Homo Economicus?

Investors may choose to dollar cost average in order to avoid "regret risk." Such investors are especially sensitive to the emotion experienced when an investment outcome, ex-post, is less than an alternative they had considered. Such investors are fearful of looking back and realizing that they invested everything right before a sharp market decline.

Again, everything becomes clearer only with the benefit of hindsight. We can't know how markets will perform over the short-term. "Homo economicus" (the rational investor) should therefore invest in a lump sum in order to maximize expected outcomes. But regret is a very real and powerful emotion that impacts investors and their "rationality". So, for some investors, dollar cost averaging can serve as a useful palliative. DCA certainly makes sense if, because of fear, the alternative is to never get invested at all.

(continued next page)

Table 3 Range and "Worst Case" Ending Period Wealth (5th percentile outcomes) Jan. 1926 - Apr. 2013 (1,048 observations)

	100% Stock Portfolio		60% Stock / 40% Bond Portfolio	
	5th percentile Ending Period Wealth	Range (Standard deviation of wealth)	5th percentile Ending Period Wealth	Range (Standard deviation of wealth)
Strategy #1: Invest 100% immediately	$7,405	$6,279	$10,030	$3,650
Strategy #2: Invest over 12 months	$7,845	$5,630	$9,744	$3,297
Strategy #3: Invest over 3 years	$8,101	$4,318	$9,923	$2,553

1. The period ending April 2013 is the most recent span that has five subsequent years of returns.
2. Shtekman, Anatoly, Christos Tasopoulos and Brian Wimmer. "Dollar-cost averaging just means taking risk later." Vanguard research. July 2012.
3. In the Vanguard paper noted in footnote 2, the authors look at downside risk and find "[t]he allocation to cash during the DCA investment period decreases the risk level of the portfolio, helping to insulate it from a declining market."
   Also see "Dollar Cost Averaging May Help to Manage Risk but on Average It Just Reduces Returns." Michael Kitces. March 2016.

   Finally a recent research paper by Jon Luskin, CFP in the Journal of Financial Planning suggests that dollar-cost averaging may be advantageous in environments where the CAPE ratio is elevated. We believe that the CAPE ratio is a dubious metric for timing market performance, most notably because the recent past has shown only elevated CAPE ratios, indicating that perhaps historical CAPE ratios may be less meaningful.

Table 4 Win Rates During Strong Market Returns*, 5 Year Rolling Returns Jan. 1926 - Apr. 2016 (264 observations)		
	100% Stock Portfolio	60% Stock / 40% Bond Portfolio
Strategy #1: Invest 100% immediately	74.8%	80.7%
Strategy #2: Invest over 12 months	13.9%	10.6%
Strategy #3: Invest over 3 years	11.3%	8.8%
* 12 month periods with S&P 500 total return of at least 25%.		

The Takeaways

One must be careful when using back tested data, as we have done here. While we have considered thousands of scenarios by using "rolling" time periods, these are not statistically independent because they overlap. More generally, past performance is no indication of future performance.

History, however, is all we have. In a world in which markets are unpredictable, history suggests that more often than not it would have proven wise for investors to invest an available lump sum in a well-diversified portfolio as soon as possible, as opposed to dollar-cost averaging over a specified time. This holds even during periods times when markets have been providing above-average returns.

Investors who choose a very aggressive portfolio (100 percent stocks or close to it) may benefit from the "risk management" that DCA provides, but this begs the question of why they would want such a risky investment – all stocks -- but simultaneously want to reduce risk through DCA. Data suggests such investors may be better off by simply maintaining a more moderately structured portfolio; that is, through a lower allocation to stocks.

Investors with cash that is intended for long-term growth should not remain in cash while "waiting for a correction" out of fear or regret. If emotions run so strong as to risk "paralysis", DCA may indeed be the best alternative. If dollar cost averaging plan is adopted, it is critical not to deviate from its stipulated equal dollar investments made at regular intervals. Allowing such a strategy to degenerate into ad hoc, emotionally-driven decisions is a recipe for disaster.

Finally investors who have a steady cash flow to invest, such as a portion of a monthly paycheck, there is certainly nothing wrong with investing this income stream at regular intervals. Indeed millions of investors practice this regularly through tax deductible payroll contributions to their 401(k) plans.

But when it comes to investing a lump sum, dollar cost averaging is not the panacea it is made out to be.

WHAT TO DO WITH A CONCENTRATED STOCK POSITION

We advise investors to avoid holding concentrated positions within an investment portfolio, such as a large holding in GE or Apple common stock.[1] We point out that by doing so they are assuming risk with no compensation in the form of expected return.

In this article, we discuss the implications of holding such positions. Sometimes this is warranted, typically for tax purposes. But in other cases this might indicate an investment plan that is not aligned with the investor's overall goals. If you hold concentrated positions, it is critical to understand the risks you are assuming and what that might portend for your financial future.

"Uncompensated" Risk

Any stock price reflects the risk it bears. Consider two hypothetical securities of comparable risk, stock A and stock B. If stock A had a higher expected return than B, then investors would flock to stock A and abandon stock B. The price of A would rise accordingly and B would fall until the securities were priced at levels that produced equivalent expected returns.

Stock ownership entails risk that can be broken down into company-specific, industry-specific, and market risk.

Company-specific risk is the risk of investing in an individual company. There are random events that could occur—a lawsuit, an accounting scandal, the death of a key executive—that would primarily affect only that company. Investors stand to lose everything in a stock if the news were dire enough to result in bankruptcy.

Industry-specific risk is similar except that it refers to broader economic events that adversely affect an entire industry. Beginning in early 2000, for example, technology firms suffered declines far greater than the rest of the stock market.

Both of these risks can be dispensed with easily, through diversification. By owning hundreds of stocks in many different industries, for every bit of "bad" news affecting a particular stock or industry, there would be an equal chance of offsetting "good" news for another firm or industry in the portfolio. This can easily be accomplished by holding a U.S. market wide index fund.

Overall market risk, however, cannot be diversified away. Although exposure to international holdings, real estate, gold, fixed income, and cash helps mitigate overall portfolio fluctuations, stock market risk cannot be eliminated. Therefore a rational investor will demand a "risk premium" in return for bearing this risk. This is the higher expected return we expect from stocks above the "risk-free" rate of return (widely acknowledged as the return on U.S. Treasury obligations).

This risk premium explains why the U.S. stock market (S&P 500) has outperformed five-year U.S. Treasury Notes by an annualized rate of 5.07 percent since 1926. The risk of investing in stocks, however is also clear in the data. The volatility of stocks has been more than four times that of Treasuries over this period[2], and there have been many short-term spans when stocks underperformed considerably. For example, the calendar year 2008 during which the S&P 500 lost 37 percent, while five-year U.S. Treasury Notes gained 13 percent.

To repeat: Investors can pursue higher expected returns relative to bonds as long as they are willing to bear the non-diversifiable risk inherent in the entire stock market.[3] But investors who hold stock in only a single firm, or in a small number of firms, needlessly bear additional risk (firm and industry related risk) without compensation because

these risks can be effectively eliminated "for free."

Why then, would anyone willingly maintaining a portfolio of stocks disproportionately concentrated in just a few firms? Here we assess some of the more common reasons.

Taxes, Taxes

A rational argument for holding an individual stock is to avoid taxes on realized capital gains. The sale of a large position in highly appreciated stock can generate a hefty tax bill. Under current tax law, most investors incur a long-term capital gains tax rate of 15 percent, although higher rates apply for investors with greater income.[4]

It can make sense to hold the stock and "diversify around" it in order to avoid this tax. This at least defers taxes into the future, perhaps by selling off the position incrementally over more than one tax year. One must weigh the risk of continuing to maintain this concentrated position against the taxes avoided. This strategy can be especially attractive to older investors who plan to pass along appreciated stock to loved heirs upon death because the cost basis of such shares "steps up" to market value, eliminating any unrealized gain liability for one's heirs.

There are also valuable tax-planning techniques specifically designed for investors facing this dilemma who also have charitable intentions. For example, a Charitable Remainder Unitrust (CRUT) can allow an investors to diversify their position while generating an income stream for life and at the same time benefiting a favorite charity.

On the other hand current tax rates on realized gains suggest that it might be prudent to simply sell concentrated shares and pay taxes due. Incurring a 15 percent levy doesn't seem so burdensome by historical standards; the maximum rate was 28 percent in the late 1990's and has been as high as 90 percent. It is not hard to imagine a future in which lawmakers raise rates considerably. This favors "biting the bullet" by selling appreciated shares entirely, or at least on an accelerated schedule.

Following Heart over Head

Some investors who otherwise agree with our investment approach are nevertheless reluctant to reduce a concentrated stock position. They often proffer non-tax arguments that are inconsistent with their stated financial objectives. These include:

- Sentimental attachment: investors might cling to a stock of a current or former employer, or because they inherited it from a loved one, or even because "it was the first stock I ever owned."
- "The story stock": Some investors fall in love with the story of a company and cannot foresee anything but a brilliant future. Often the story is the future that the investor hopes for, such as holding solar energy sector stocks on blind faith that solar will supplant traditional sources of energy. Contradictory evidence rarely dissuades such investors.
- The current price: Investors are sometimes anchored to the price they paid for a stock that has fallen in value, in hopes of "getting their money back." They fail to realize that the market is forward looking, and is indifferent to what one investor long ago happened to pay for a stock.
- A hunch: A common reason that investors buy single stocks is that they believe they know something that the market has not yet realized. There are mountains of empirical evidence that refute anyone who claims the ability to consistently "outguess" the market.

All of these arguments are based on emotional considerations that can be detrimental to one's future financial health. Emotionally-driven adherence to a concentrated position is not unlike the decision to purchase a lottery ticket. Lottery "scratch tickets" have an average payout well below their price with expected losses of 50 percent or more, yet these "irrational" lotteries are wildly popular. Owners of concentrated positions often harbor a "lottery-ticket mentality" that is inconsistent with their stated financial goals.

Consider a hypothetical investor with $1 million who hopes to withdraw $40,000 per year adjusted for inflation for 30 years. A diversified, moderate risk portfolio provides a high likelihood of achieving this goal. It can simultaneously provide a reasonable expectation of meeting other goals such as maintaining liquidity for emergencies, keeping control of one's assets, leaving a bequest, and the potential to earn inflation-adjusted real growth for higher spending in the future.

However, consider a similar investor who instead holds 10 percent ($100,000) in the shares of a single firm. Even if the remainder is well diversified, he has a lower probability of meeting these goals because he is assuming risk that is uncompensated, aside from emotional satisfaction that is unrelated to these objectives. This is a difficult trade-off to assess, let alone endorse.

To Thine Own Self be True

As investment advisors we are not qualified to judge anyone's preferences. We are however obligated to encourage our clients to confront the rationale for their decisions. There is nothing "wrong" with holding an outsized position in a particular stock, but anyone doing so should acknowledge that they may be doing so for non-financial reasons, and that doing so entails a trade-off that can be costly.

If our lottery ticket analogy strikes a chord, take heart. There is a better solution for those with a large appetite for risk. A higher allocation to a diversified basket of stocks is a prudent way to satisfy even the most aggressive of investors, as it entails higher expected returns while avoiding the uncompensated risks we have described.

Readers who hold a concentrated stock position should consider carefully the risk they are accepting. To that end we hope the framework we have outlined proves useful. We can offer direct assistance through our Professional Asset Management service. For more information, please contact us at (413) 645-3327.

1. There may be tax reasons for which we advise investors to hold individual stocks.
2. As measured by the standard deviation, which has been 18.65% for the S&P 500 and 4.33% for 5-Year U.S. Treasury Notes. Data from January 1926 through May 2018. Source: DFA Returns 2.0.
3. This assumes investment across all stocks on a capitalization-weighted basis.
4. For 2018, a 20 percent long-term capital gains tax rate applies to income greater than $479,000 for married filing jointly households. There is an additional Medicare surtax of 3.8 percent on net investment income more than $250,000.

THE HIGH-YIELD DOW INVESTMENT STRATEGY

Recommended HYD Portfolio

As of June 15, 2018

	Rank	Yield (%)	Price ($)	Status	—Percent of Portfolio— Value (%)	No. Shares (%)[1]
Verizon	1	4.91	48.06	Holding**	24.29	32.78
IBM	2	4.32	145.39	Holding**	18.84	8.40
Exxon Mobil	3	4.07	80.66	Buying	19.54	15.71
Pfizer	4	3.74	36.36	Holding**	13.82	24.64
Proctor & Gamble	5	3.71	77.38	Holding	1.62	1.36
Chevron	6	3.61	124.04	Selling	17.35	9.07
General Electric	7	3.61	13.30	Holding	1.55	7.55
Boeing	22	1.91	357.88	Selling	2.69	0.49
Cash (6-mo. T-Bill)	N/A	N/A			0.30	N/A
Totals					100.00	100.00

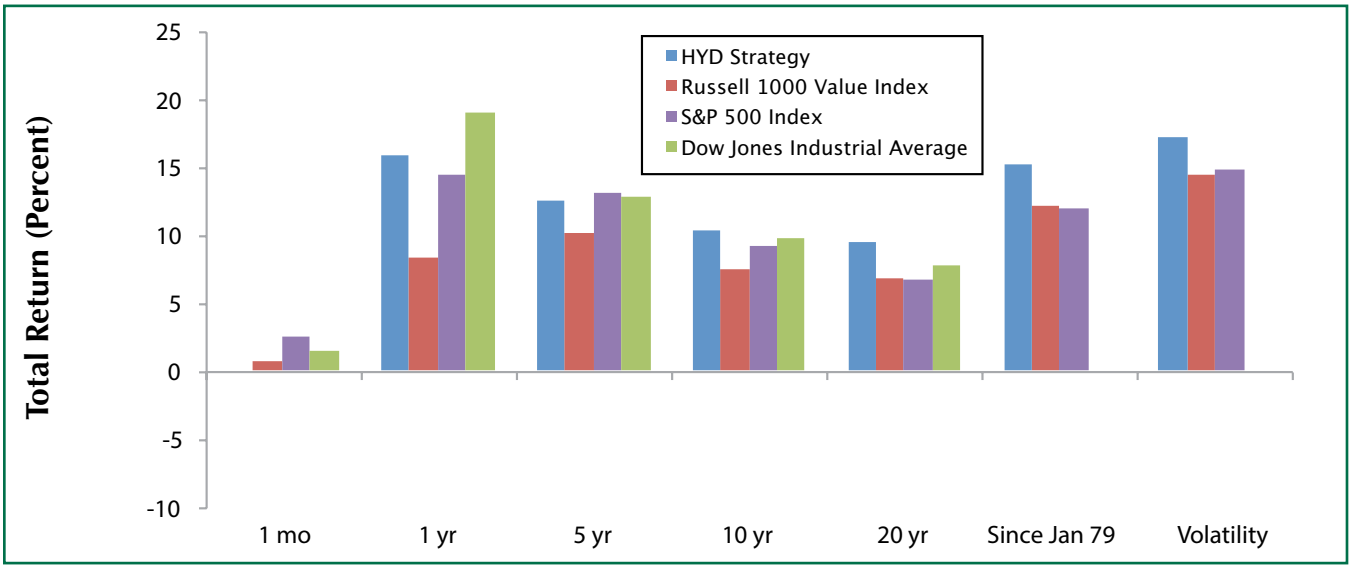
**Currently indicated purchases approximately equal to indicated purchases 18 months ago. 1 Because the percentage of each issue in the portfolio by value reflects the prices shown in the table, we are also showing the number of shares of each stock as a percentage of the total number of shares in the entire portfolio.

Subscribers can find a full description of the strategy and methodology in the "Subscribers Only" (Log in required) section of our website: www.americaninvestment.com.

Comparative Hypothetical Total Returns (%) and Volatility

The data presented in the table and chart below represent total returns generated by a hypothetical HYD portfolio and by benchmark indexes for periods ending May 31, 2018*. Returns for the 5-,10- and 20-year periods are annualized, as is the volatility (standard deviation) of returns. (January 1979 is the earliest date for which data was available for both the HYD model and relevant benchmark indexes).

	1 mo.	1 yr.	5 yrs.	10 yrs.	20 yrs.	Since Jan 79	Volatility (Std. Dev.) since 1979
HYD Strategy	0.01	15.75	12.42	10.23	9.44	15.07	17.10
Russell 1000 Value Index	0.59	8.25	10.09	7.38	6.74	12.04	14.36
S&P 500 Index	2.41	14.38	12.98	9.14	6.64	11.88	14.76
Dow Jones Industrial Average	1.41	18.91	12.78	9.67	7.66	N/A	N/A



*Data assume all purchases and sales at mid-month prices (+/–$0.125 per share commissions), reinvestment of all dividends and interest, and no taxes. Model HYD calculations are based on hypothetical trades following a very exacting stock-selection strategy. They do not reflect returns on actual investments or previous recommendations of AIS. Past performance may differ from future results. Historical performance results for the Russell 1000 Value Index, the Dow Jones Industrial Index and the S&P 500 Index do not reflect the deduction of transaction and/or custodial charges, or the deduction of an investment-management fee, the incurrence of which would have the effect of decreasing historical performance results. HYD Strategy results reflect the deduction of 0.73% management fee, the annual rate assessed to a $500,000 account managed through our High Yield Dow investment service.

Representative asset class indexes: U.S. large cap value - Russell 1000 Value Index; U.S. small cap value - Russell 2000 Value Index; U.S. Marketwide - Russell 3000 Index; Global REITs - S&P Global REIT Index; foreign developed markets - MSCI world ex-U.S.(net div.)Index; emerging markets - MSCI Emerging Markets Index(net div.); U.S. Bonds - Barclays U.S. Aggregate Bond Index; Foreign Bonds - Citi World Government Bond Index ex USA; Gold - London PM Fix. Past performance may not be indicative of future results. Therefore, no current or prospective investor should assume that the future performance of any specific investment, investment strategy (including the investments and/or investment strategies recommended by AIS), or product made reference to directly or indirectly, will be profitable or equal to past performance levels. Historical performance results for individual investment indexes and/or categories generally do not reflect the deduction of transaction and/or custodial charges, the deduction of mutual fund fees, or the deduction of advisory fees, the incurrence of which would have the effect of decreasing historical performance. The results portrayed above reflect the reinvestment of dividends and capital gains.

RECENT MARKET STATISTICS

Precious Metals & Commodity Prices ($)

	6/15/18	Mo. Earlier	Yr. Earlier	Prem. (%)
Gold, London p.m. fixing	**1,285.25**	1,295.00	1,254.55	
Silver, London Spot Price	**17.23**	16.41	16.86	
Crude Oil, W. Texas Int. Spot	**65.01**	71.01	44.46	
Coin Prices ($)[1]				
American Eagle (1.00)	**1,310.25**	1,320.00	1,314.55	1.95
Austrian 100-Corona (0.98)	**1,253.55**	1,263.10	1,246.98	-0.48
British Sovereign (0.2354)	**302.55**	304.84	300.97	0.00
Canadian Maple Leaf (1.00)	**1,295.25**	1,305.00	1,299.55	0.78
Mexican 50-Peso (1.2056)	**1,541.50**	1,553.25	1,533.42	-0.52
Mexican Ounce (1.00)	**1,303.25**	1,313.00	1,303.55	1.40
S. African Krugerrand (1.00)	**1,292.25**	1,302.00	1,288.55	0.54
U.S. Double Eagle-$20 (0.9675)				
St. Gaudens (MS-60)	**1,310.00**	1,315.00	1,235.00	5.35
Liberty (Type I-AU50)	**2,000.00**	2,000.00	3,000.00	60.84
Liberty (Type II-AU50)	**1,325.00**	1,325.00	1,325.00	6.56
Liberty (Type III-AU50)	**1,290.00**	1,310.00	1,235.00	3.74
U.S. Silver Coins ($1,000 face value, circulated)				
90% Silver Circ. (715 oz.)	**12,240.50**	12,280.50	12,700.50	-0.61
40% Silver Circ. (292 oz.)	**4,895.50**	4,895.50	4,985.50	-2.67
Silver Dollars Circ.	**22,875.00**	22,875.00	21,750.00	71.70

[1]Note: Premium reflects percentage difference between coin price and value of metal in a coin. The weight in troy ounces of the precious metal in coins is indicated in parentheses.

Recent Market Returns[2]

Data through May 31, 2018

	U.S. Stocks (Mktwd)	Foreign Dev. Stocks	Foreign Emerg. Stocks	Global REITs	U.S. Bonds	Foreign Bonds (hedged)	Gold
1-month	2.82% ↑	-1.90% ↓	-3.54% ↓	2.13% ↑	0.71% ↑	-0.22% ↓	-0.60% ↓
3-month	1.14% ↑	-1.38% ↓	-5.75% ↓	6.36% ↑	0.61% ↑	0.32% ↑	-0.50% ↓
1 year	15.06% ↑	8.33% ↑	14.03% ↑	2.66% ↑	-0.38% ↓	1.35% ↑	3.56% ↑
5 year (annualized)	12.85% ↑	5.65% ↑	4.52% ↑	5.20% ↑	1.98% ↑	1.61% ↑	-1.22% ↓
15 year (annualized)	9.66% ↑	7.56% ↑	11.43% ↑	7.82% ↑	3.76% ↑	2.67% ↑	8.97% ↑
Best and worst one-year returns, Jan. 2001 - May 2018							
Best	**56.0%**	**57.2%**	**91.6%**	**85.7%**	**13.8%**	**7.1%**	**57.6%**
During:	03/2009-02/2010	04/2003-03/2004	03/2009-02/2010	04/2009-03/2010	11/2008-10/2009	07/2008-06/2009	06/2005-05/2006
Worst	**-43.5%**	**-50.3%**	**-56.6%**	**-59.5%**	**-2.5%**	**0.1%**	**-27.4%**
During:	03/2008-02/2009	03/2008-02/2009	12/2007-11/2008	03/2008-02/2009	09/2012-08/2013	04/2010-03/2011	12/2012-11/2013

[2]For representative asset class indexes see box on page 46.

THE DOW JONES INDUSTRIALS RANKED BY YIELD*

	Ticker Symbol	Market Prices ($) 6/15/18	5/15/18	6/15/17	12-Month ($) High	Low	Latest Dividend Amount ($)	Record Date	Payable Date	Indicated Annual Dividend ($)	Yield† (%)
Verizon	VZ	48.06	47.79	46.64	54.77	42.80	0.590	7/10/18	8/1/18	2.360	4.91
IBM	IBM	145.39	143.74	154.22	171.13	139.13	1.570	5/10/18	6/9/18	6.280	4.32
Exxon Mobil	XOM	80.66	81.79	82.26	89.30	72.16	0.820	5/14/18	6/11/18	3.280	4.07
Pfizer	PFE	36.36	35.69	32.81	39.43	32.32	0.340	5/11/18	6/1/18	1.360	3.74
Procter and Gamble	PG	77.38	72.95	89.38	94.67	70.73	0.717	4/20/18	5/15/18	2.869	3.71
Chevron	CVX	124.04	129.74	106.33	133.88	102.55	1.120	5/18/18	6/11/18	4.480	3.61
General Electric	GE	13.30	14.71	28.94	29.00	12.73	0.120	6/18/18	7/25/18	0.480	3.61
Coca-Cola	KO	44.12	41.72	45.25	48.62	41.45	0.390	6/15/18	7/2/18	1.560	3.54
Merck	MRK	62.03	59.20	63.19	66.41	52.83	0.480	6/15/18	7/9/18	1.920	3.10
Cisco	CSCO	44.25	45.48	31.58	46.37	30.36	0.330	7/6/18	7/25/18	1.320	2.98
Johnson & Johnson	JNJ	122.61	125.13	133.04	148.32	118.62	0.900	5/29/18	6/12/18	3.600	2.94
3M Company	MMM	204.97	202.41	211.29	259.77	191.44	1.360	5/18/18	6/12/18	5.440	2.65
Wal-Mart Stores	WMT	83.70	84.52	78.91	109.98	73.13	0.520	8/10/18	9/4/18	2.080	2.49
McDonald's	MCD	166.46	163.06	151.17	178.70	146.84	1.010	6/4/18	6/18/18	4.040	2.43
Travelers	TRV	129.37	129.86	129.02	150.55	113.76	0.770	6/8/18	6/29/18	3.080	2.38
Caterpillar	CAT	150.02	152.59	106.40	173.24	102.30	0.860	7/20/18	8/20/18	3.440	2.29
DowDupont	DWDP	67.75	67.15	82.17	77.08	61.27	0.380	5/31/18	6/15/18	1.520	2.24
United Tech.	UTX	126.91	124.55	120.75	139.24	109.10	0.700	8/17/18	9/10/18	2.800	2.21
Intel Corp	INTC	55.11	53.92	35.31	57.60	33.23	0.300	5/7/18	6/1/18	1.200	2.18
J P Morgan	JPM	107.90	113.03	86.57	119.33	86.61	0.560	7/6/18	7/31/18	2.240	2.08
Home Depot, Inc.	HD	200.54	187.98	156.77	207.61	144.25	1.030	5/31/18	6/14/18	4.120	2.05
Boeing	BA	357.88	342.12	195.45	374.48	196.45	1.710	5/11/18	6/1/18	6.840	1.91
Microsoft Corp.	MSFT	100.13	97.32	69.90	102.69	68.02	0.420	8/16/18	9/13/18	1.680	1.68
Apple	AAPL	188.84	186.44	144.29	194.20	142.28	0.730	5/14/18	5/17/18	2.920	1.55
Walt Disney	DIS	108.85	102.92	105.98	113.19	96.20	0.840	12/11/17	1/11/18	1.680	1.54
American Express	AXP	98.52	100.74	80.70	103.24	81.29	0.350	7/6/18	8/10/18	1.400	1.42
Unitedhealth Group	UNH	255.98	239.50	180.38	256.73	180.76	0.900	6/18/18	6/26/18	3.600	1.41
Goldman Sachs	GS	231.92	241.56	223.23	275.31	214.64	0.800	5/31/18	6/28/18	3.200	1.38
Nike	NKE	75.84	69.50	52.90	75.91	50.35	0.200	6/4/18	7/5/18	0.800	1.05
Visa Inc.	V	135.10	131.10	94.17	136.58	93.19	0.210	5/18/18	6/5/18	0.840	0.62

* See the Recommended HYD Portfolio table on page 46 for current recommendations. † Based on indicated dividends and market price as of 6/15/18. Extra dividends are not included in annual yields. All data adjusted for splits and spin-offs. 12-month data begins 6/15/17.

ASSET CLASS INVESTMENT VEHICLES

Data as of May 31, 2018

		Security Symbol(s) (1)		Avg. Market Cap / Avg. Maturity	Number of Holdings	Expense Ratio (%)	Turnover (%)	Price-to-Book Ratio	Trailing 12-Mo. Yield (%)	Annualized Returns (%) 1-Year	3-Year	5-Year	Tax Cost Ratio - 3 Years (%) (3)
Fixed Income		Mutual Fund	ETF										
Short-Term Bonds	Vanguard Short-Term Bond	VBISX	BSV	2.80 yrs	2496	0.15	50		1.55	-0.43	0.61	0.83	0.67
Short-Term Bonds	SPDR Portfolio Short Term Corp Bd ETF		SPSB	2.00 yrs	1080	0.07	67		1.99	0.60	1.28	1.23	0.74
Short-Term Bonds	iShares 1-3 Year Treasury Bond ETF		SHY	1.95 yrs	69	0.15	85		1.11	-0.17	0.29	0.43	0.36
Interm-Term	Vanguard Total Bond Market	VBMFX	BND	8.40 yrs	17486	0.15	55		2.32	-0.64	1.22	1.74	1.09
Interm-Term	iShares Core US Aggregate Bond ETF		AGG	5.90 yrs	6776	0.05	252		2.45	-0.47	1.32	1.88	1.04
Tax-Exempt	Vanguard Ltd-Term Tax-Exempt	VMLTX		2.90 yrs	4932	0.19	19		1.48	0.07	1.08	1.05	0.05
Tax-Exempt	SPDR Nuveen Blmbg Barclays ST MunBd ETF		SHM	2.99 yrs	1396	0.20	32		1.09	-0.88	0.63	0.67	0.00
Tax-Exempt	Vanguard Interm-Term Tx-Ex Inv	VWITX		5.50 yrs	7665	0.19	15		2.53	0.53	2.33	2.49	0.08
Inflation-Protected	iShares TIPS Bond ETF		TIP	7.52 yrs	39	0.20	32		2.24	0.44	1.30	0.66	0.65
Inflation-Protected	Vanguard Inflation-Protected Securities	VIPSX		8.30 yrs	41	0.20	22		2.55	0.15	1.25	0.59	0.78
International	Vanguard Total International Bond	VTIBX	BNDX	9.30 yrs	4885	0.13	19		2.20	2.23	2.74	3.47	0.79
Real Estate (REITs)													
U.S. REITs	Vanguard REIT	VGSIX	VNQ	10.61 B	186	0.26	6	2.06	4.44	0.14	4.29	6.47	1.50
U.S. REITs	SPDR Dow Jones REIT		RWR	10.79 B	102	0.25	9	2.09	3.05	2.71	4.48	6.52	1.53
Int'l REITs	Vanguard Global ex-US Real Estate (2)	VGXRX	VNQI	6.73 B	633	0.34	6	1.02	3.81	11.20	5.38	5.42	1.47
Int'l REITs	iShares International Developed Property		WPS	6.92 B	386	0.48	8	0.98	4.23	9.72	4.94	5.66	1.57
Global (incl. U.S.)	SPDR Dow Jones Global Real Estate ETF		RWO	9.05 B	231	0.50	13	1.48	3.30	3.87	3.37	5.13	1.41
U.S. Stocks													
Large Cap (blend)	Vanguard S&P 500	VFINX	VOO	95.35 B	516	0.14	3	2.84	1.69	14.23	10.83	12.82	0.63
Large Cap (blend)	iShares Core S&P 500		IVV	98.29 B	509	0.04	5	2.93	1.84	15.12	11.18	12.75	0.52
Large Cap (blend)	iShares Russell 1000 ETF		IWB	75.58 B	978	0.15	4	2.86	1.70	15.22	10.83	12.61	0.48
Large Cap Value	Vanguard Value	VIVAX	VTV	88.61 B	341	0.17	9	2.12	2.26	11.77	9.34	11.27	0.80
Large Cap Value	iShares Russell 1000 Value		IWD	58.39 B	716	0.20	13	1.87	2.24	8.91	7.57	9.75	0.60
Small Cap (blend)	iShares Core S&P Small-Cap ETF		IJR	1.65 B	606	0.07	13	2.06	1.20	23.99	14.22	14.31	0.39
Small Cap (blend)	Schwab US Small-Cap ETF		SCHA	2.64 B	1729	0.05	11	2.04	1.23	20.40	10.23	12.13	0.44
Small Cap Value	Vanguard Small Cap Value	VISVX	VBR	3.54 B	891	0.19	19	1.77	1.71	14.71	9.54	11.92	0.68
Small Cap Value	iShares Russell 2000 Value		IWN	1.63 B	1395	0.24	24	1.43	1.80	17.19	11.37	10.84	0.60
Small Cap Value	iShares Micro-Cap		IWC	0.55 B	1365	0.60	21	1.82	1.07	25.49	11.06	12.50	0.39
Marketwide	Vanguard Total Stock Market	VTSMX	VTI	56.08 B	3634	0.14	3	2.71	1.60	14.98	10.58	12.70	0.61
Marketwide	Fidelity Total Market Index	FSTMX		54.56 B	3354	0.09	2	2.70	1.62	15.03	10.63	12.72	0.91
Foreign Stocks													
Developed Markets	Vanguard FTSE Developed Markets ETF	VDVIX	VEA	23.86 B	3882	0.17	3	1.55	2.75	9.34	5.12	0.00	0.77
Developed Markets	iShares Core MSCI EAFE ETF		IEFA	24.81 B	2532	0.08	2	1.63	2.59	10.03	5.50	6.57	0.71
Emerging Markets	Vanguard Emerging Markets Stock	VEIEX	VWO	19.97 B	4122	0.32	6	1.70	2.23	11.95	4.13	3.77	0.84
Emerging Markets	Schwab Emerging Markets Equity ETF		SCHE	32.34 B	918	0.13	7	1.69	2.39	10.91	4.77	3.97	0.68
Gold-Related Funds													
Gold ETFs	iShares Gold Trust		IAU			0.25			0.00	2.88	2.76	-1.88	0.00
Gold ETFs	SPDR Gold Shares		GLD			0.40			0.00	2.69	2.64	-2.03	0.00

Data provided by the funds and Morningstar. (1) Some funds are available as mutual funds and ETFs, in which case both symbols are shown. In these cases, data represent the mutual fund. The ETF may offer a lower expense ratio and returns may deviate. For Vanguard funds, the Investor share class is shown. The Admiral share class, which has a higher minimum investment, may offer lower expenses. (2) VGXRX includes a 0.25% fee on purchases and redemptions, which are paid directly to the fund. (3) This represents the percentage-point reduction in an annualized return that results from income taxes. This calculation (source: Morningstar) assumes investors pay the maximum federal rate on capital gains and ordinary income.