Asset Class Performance by Representative Index*
4/21=100

(Latest Plot: 4/30/2022)

- U.S. Large Cap Value
- U.S. Small Cap Value
- U.S. Marketwide
- Global REITs
- Foreign Developed Markets
- Foreign Emerging Markets

*See box, page 38, for representative indexes.

Rates of Interest
As of May 24, 2022

Government Obligations[1]	
Fed Funds Rate	0.83%
3-Month Treas. Bill	1.05%
10-Yr. Treas. Note	2.76%
30-Yr. Treas. Bond	2.98%
10-Yr. TIPS	0.21%
Muni Bonds - Nat'l 10-Yr.	2.85%
Mortgage Rates[2]	
15-Yr Fixed	4.43%
30-Yr Fixed	5.25%
Banking[3]	
Savings	0.07%
Money Market	0.08%
12-month CD	0.21%

[1] Federal Reserve, fmsbonds.com. Annualized Rates. Notes, bonds, TIPS reflect yield to maturity.
[2] Freddie Mac. Average (National average mortgages with 0.9 points).
[3] FDIC. Average national rates, non-jumbo deposits (<$100k).

Ignore the Dips

On May 20, the U.S. stock market had fallen 20 percent from its January 3 peak. The media pounced, reminding investors that stocks had officially entered bear market territory. Talking heads on cable news debated whether investors should expect further declines, or whether this event represented an opportunity to "buy the dip."

As it happens, the market has since rebounded. Are the buyers vindicated? It is too soon to tell, of course. But history provides some insight.

When the stock market declines over a few days or months, investors might conclude a down year is inevitable. But we remind readers that the U.S. stock market had positive returns during 17 of the past 20 calendar years. Severe dips occurred several times during this period, even in years with positive returns. In fact, intra-year declines in the Russell 3000 ranged from 3 to 49 percent during these two decades. Even in 2020, when Covid emerged, the market gained 21 percent for the year.

A hypothetical $1,000 investment in U.S. stocks (Russell 3000) made in January 1997 would have grown over the next 25 years to $10,367 (through December 2021). However, if an investor had missed the best week (during November 2008), that ending value falls to $8,652.

These short-term occurrences are of course unpredictable, as are long-term returns. But even if we somehow knew in advance the market's total return over extended periods, such as the next 30 years, an investor's ending wealth would still be far from certain. As we explain in the following article, the sequence of daily, monthly, or even annual returns over an investment lifetime will have a substantial impact on future wealth.

Investors should avoid the temptation to buy on the dip, as well as to "stay in cash until things have settled down." It is far more rational to invest in a well-structured portfolio at regular intervals

THE LUCK OF THE DRAW: SEQUENCE OF RETURNS

*P*rospective clients often ask: "What can I expect for returns?" This is understandable. People want to know how they can expect their money to grow over time.

Unfortunately, we cannot predict any investor's return over one, five, or even 20-year periods. But, even if we could predict long-term returns with reasonable precision, we cannot predict the critical *sequence* of those returns.

Through April 30, the U.S. stock market provided a 30-year long term average annual return of just over 10 percent.[1] But this average return obscures dramatic, unpredictable variation in returns from year-to-year. Return variability has a substantial impact on an investor's ending wealth over a lifetime.

This article demonstrates how the timing of returns impacts investors' future wealth. This factor is beyond anyone's control, but we explain a means by which you can account for this uncertainty within a sound financial plan.[2]

We first consider the theoretical importance of the sequence of returns. We then consider actual market history to demonstrate investment results for two hypothetical investors who lived in different periods. Finally, we explain how individualized Monte Carlo simulations can guide prudent financial decisions despite this uncertainty.

Sequence of Returns

While the theory behind the risk associated with sequence of returns can be explained mathematically, it can be readily depicted by considering a purely hypothetical example using contrived returns.

Table 1 depicts outcomes for two workers, each of whom saves $10,000 per year for 10 years. Each worker experiences two years each of -10, 0, 10, 15, and 20 percent returns. Only the sequence of returns is different.

The middle column represents a worker who earns high returns in the early part of the decade but poor returns towards the end of the decade. In the far-right column, another worker experiences poor returns early on, but favorable returns later in the decade.

Both investors experienced average annual market returns equal to 6.4 percent. But the first worker ends with a balance of $110,463 while the second ended with $191,486. The difference of $81,000 is attributable solely to the sequence of returns they experienced.

This hypothetical breaks out the specific risk associated with the sequence of investment returns. Although annualized returns and contributions are identical for these investors, the variation in the timing of those returns from year-to-year has a substantial impact on future balances. Even if we knew the average return in advance and implemented a prudent savings plan, we still cannot predict with any precision what the future balance might be.

All else equal, a 35-year-old making 401(k) salary deferrals from every paycheck need not be terribly concerned if his returns are relatively low for the next 10 years, as long as his returns are above average as he approaches retirement. If anything, when low market returns are prevailing today, this depiction should encourage young savers to continue to save. Sadly, many investors do the opposite.

The reverse is true in retirement. Pre-retirees with plans to spend down from investment accounts would prefer higher returns to come early. For a 65-year-old who has established a respectable nest egg, such returns will send its starting value even higher, reducing the risk that he will be forced to cut his spending in later years.

Whether you are in saving or spend-down mode, the logic is the same. The optimal outcome over a lifetime occurs when the highest periodic returns (annual in this simple demonstration) coincide with the largest accumulated balance.

Sequence of Returns in Action

The preceding example was contrived to demonstrate a point, so it may seem extreme. But actual market data reveals how two hypothetical investors following similar strategies and experiencing similar long-term returns can have quite different outcomes depending simply on when they were born.

Consider two investors, Art, and his daughter Barbara. Art began working and saving in 1945. He adopted a simple portfolio comprised of 60 percent U.S. stocks and 40 percent U.S. bonds.[3] He

Table 1. The Sequence of Returns Matters

Year	Beginning of Year Deposit	Early return high, late returns low		Early returns low, late returns high	
		Market Return	Investor's Balance	Market Return	Investor's Balance
1	10,000	20%	12,000	-10%	9,000
2	10,000	20%	26,400	-10%	17,100
3	10,000	15%	41,860	0%	27,100
4	10,000	15%	59,639	0%	37,100
5	10,000	10%	76,603	10%	51,810
6	10,000	10%	95,263	10%	67,991
7	10,000	0%	105,263	15%	89,690
8	10,000	0%	115,263	15%	114,643
9	10,000	-10%	112,737	20%	149,572
10	10,000	-10%	**110,463**	20%	**191,486**
Annualized Performance		**6.4%**		**6.4%**	

started saving $100 per month in January 1945 and increased his savings each month with inflation.[4] Art continued saving for exactly 30 years, and then began spending $1,024 per month from the portfolio beginning in January 1975 (this is 3.5 times the inflation-adjusted equivalent of $100 in 1945). His ongoing spending also increased with inflation, peaking at $3,742 in his last month of retirement, December 2004, exactly 30 years after he retired.

Barbara follows her father's example, but she began working and saving in 1970. She began saving $212 per month (the equivalent of $100 per month in January 1945), adjusted as time passes to account for inflation, and adopted the same 60/40 portfolio. She worked for 30 years and then retires to spend 3.5 times her monthly saving amount, which she also adjusts for inflation during retirement.

Art and Barbara save the same inflation-adjusted amounts, work for the same amount of time, spend the same inflation-adjusted amounts in retirement, and invest in identical portfolios. As it happens, they even experienced nearly identical average annual market returns of 9.76 percent and 9.56 percent, respectively.

But their market experiences have a critical distinction. Barbara encounters excellent relative returns in the later part of her career in the late 1990's, when her portfolio is quite large. Art's portfolio has grown large as he approaches retirement, during the mid-1970s. But in his early retirement years, beginning in 1975, market returns are relatively low and inflation spikes, triggering higher spending from his portfolio. These factors have a negative relative impact on the portfolio when his balance is highest.

In Chart 1 nearby, we depict the inflation-adjusted hypothetical account balances for Art and Barbara over their relevant time horizons. We include a third hypothetical investor who started in 1995.

Art had a reasonably good investment experience and enjoyed a comfortable retirement. He had just enough to spend the equivalent (in today's dollars) of $5,653 per month throughout a 30-year retirement.

Barbara, on the other hand, has seen her investment wealth far surpass Art's. Now 22 years into retirement, she is spending $5,653 per month (the same as Art' retirement spending) yet she still has

Chart 1. Growth of Wealth for Three Different Investors Following the Same Strategy Inflation Adjusted (March 1992 dollars)
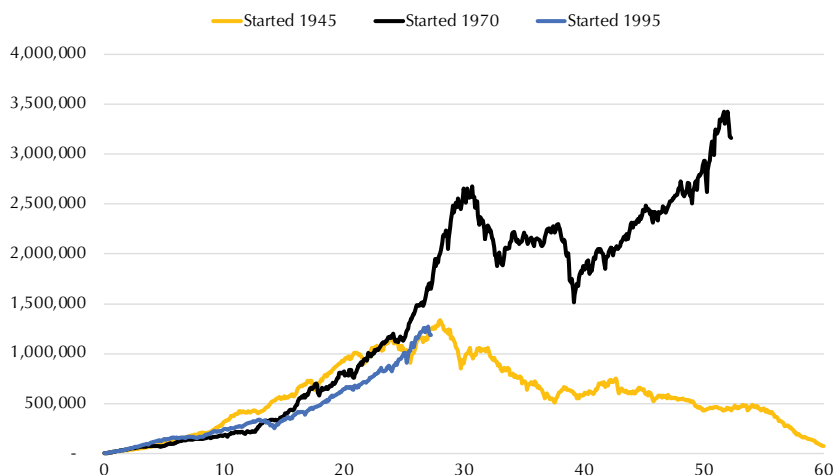
a portfolio valued at over $3 million.

Did Art do anything wrong? Did Barbara do anything particularly clever? The answer to both is no. They both followed a simple saving and investment strategy and stuck with it for a long time. They both saw similar average investment returns during their lifetimes.

And yet, Barbara has more than $3 million in her account with just eight years left in her 30-year retirement window. The sequence of returns has caused a huge and unpredictable discrepancy in outcomes, even though the annualized total returns were nearly identical.

Even holding total return constant, market history shows that an investor's financial fate depends a great deal on when they were born. While that is beyond an investor's control, we can employ a statistical tool to help make better-informed decisions with this risk front and center.

The Limits of History

We have almost a century of U.S. stock market history available. From this it may seem reasonable to derive an optimal strategy for minimizing market risk, including sequence of returns risk.

We have sometimes reviewed rolling returns in our research, which can be useful depending on the nature of the question being asked. For example, we can consider January 1926 through December 1945 as one 20-year period, February 1926 through January 1946 as a second period, and so forth. Through April 2022, that would provide a data set of 917 *overlapping* 20-year periods.

Unfortunately, even such a large

data set is not useful for forming a strategy to address sequence of returns risk. Because these periods are overlapping, they are not independent. For example, in two subsequent sample periods described in the preceding paragraph, 239 out of 240 months provide identical returns, and they occur in the exact same sequence. Those two trials would be nearly identical.

We know from observation that monthly market returns in any given month tell us nothing about returns in the following month; the market, like a roulette wheel, has no memory. Changes in monthly stock market returns are essentially random because the news to which prices react is, by definition, random.

With only 96 years of stock market history available, we have only four full 20-year periods that are not overlapping and therefore statistically independent. This is far too small a sample from which we can draw statistically reliable conclusions.

We need a process that considers all monthly returns in market history and randomizes the order in which they occur, from which we can project a large number of hypothetical 20-year sequences. Imagine an experiment in which we wrote down each actual monthly market return since 1926 on a slip of paper, mixed them up and randomly selected a slip, one at a time (replacing it each time), to create a hypothetical 20-year return stream. This would be repeated hundreds of times and each return stream recorded. Such a process

Chart 2. Sample Monte Carlo Simulations and Actual 30-Year Periods
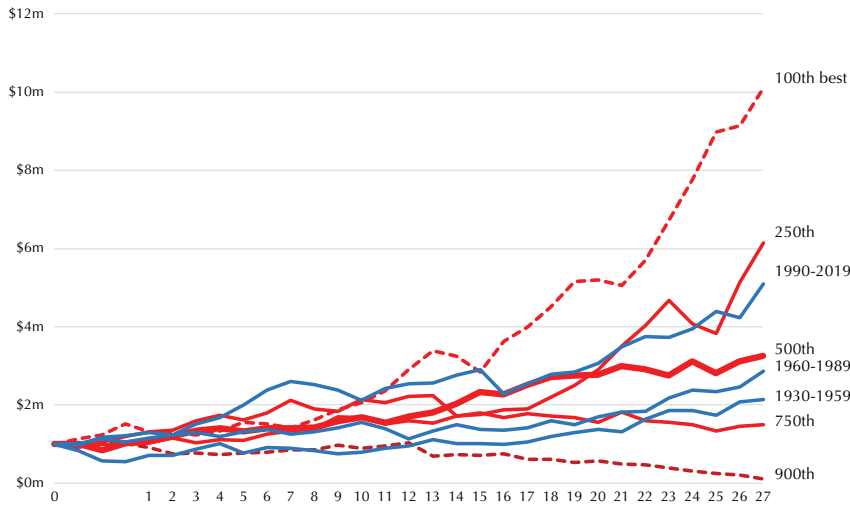
could generate a data set large enough to produce reliable results.

For planning purposes, we can simulate this process through Monte Carlo analysis. If we have a reasonable and prudent estimate of the average annual returns and volatility for an asset class such as U.S. stocks, we can create a wide range of potential outcomes, enough to ensure statistical reliability, as opposed to just four independent 20-year samples.

We can then incorporate various assumptions to generate a picture of the range of potential long-term outcomes. Other inputs include contributions and withdrawals from the portfolio, inflation, income now and in the future, housing wealth, and so on.

This can help investors make prudent financial decisions, select an allocation plan suitable to their circumstances, and have some confidence that they will be able to meet their financial objectives.

In Chart 2, we show a sample of simulated potential outcomes for someone entering retirement. In these hypothetical scenarios, we assume a starting balance of $1 million, annual withdrawals of $40,000 (adjusted for the historical average inflation of 2.93 percent per year) over the next 30 years, and historical average returns and volatility for the 60/40 portfolio descried in footnote 3. Although we have run 1,000 simulations, we show only five of them

for simplicity – those simulations with ending wealth outcomes that rank 100th, 250th, 500th, 750th, and 900th (also known as the 90th, 75th, 50th, 25th, and 10th percentile of outcomes).

The simulations show the wide range of outcomes we could expect. In the 100th best scenario out of 1,000, the ending portfolio value is more than $10 million, while in the 900th best scenario the ending portfolio value is just over $100,000. These "extremes" are indicated by the dashed red lines.

We have also superimposed *actual* return streams results for the three independent timeframes that occurred between 1930 and 2019. These are indicated by solid blue lines, with actual time spans indicated. Each falls well within the range of the possible outcomes we assert (between the 75th and 25th percentiles).

The simulations confirm the lesson from Art and Barbara. There is an enormous disparity in outcomes, even with a reasonably consistent estimate of annual returns. A great deal of this disparity is attributable to sequence of return risk.

Monte Carlo as a Tool

Even if we could predict long-term returns, we would still have a difficult time anticipating how financial assets will grow given the uncertainty of the sequence of returns. While luck plays a big

role, (i.e., when you happen to be alive amid market uncertainty), this is hardly reason for despair. Uncertainty should not discourage you from planning. It is often said that "plans are of no particular value, but planning is indispensable."[5] Tools such as Monte Carlo simulation can provide a reassuring framework.

When we run Monte Carlo simulations for clients, we use them to help analyze the impact of various factors on long-term financial sustainability. For example, how do the simulations change if we project an earlier or later retirement date? How do they differ if we spend more, or less? What if we are faced with higher or lower inflation? These are all important questions. Some are within our control, but others are not. These simulations can at least help us appreciate how impactful each of these variables can be.

In our experience, Monte Carlo simulations are especially helpful for workers approaching retirement or who have that recently retired. One of the great questions of financial planning is how to create an optimal withdrawal strategy. These simulations can be updated annually. As personal and financial circumstances change, it might be prudent to revise retirement spending or to reassess expectations if capital markets change sharply.

If you have questions about retirement planning and would like to learn more about our financial planning services, please feel free to contact us at LukeD@americaninvestment.com.

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1. S&P 500 total return including reinvestment of interest and dividends. Does not account for investment-related expenses. Past returns are not a predictor of future results.
2. For an in depth explanation of this topic, see "How Much Money Will I Make?" May 31, 2008, Investment Guide, or contact us to obtain a copy.
3. Historical returns are constructed using a portfolio of 60% S&P 500 and 40% five-year U.S. Treasury bills, rebalanced monthly. These returns assume all dividends and interest are re-invested, and do not include management or transaction fees. Returns are hypothetical and are meant only for illustrative purposes. Past returns are not a predictor of future results.
4. $100 in January 1945 is equivalent to $1,615 in March 2022 if we are using the U.S. Consumer Price Index: CPI-U)
5. Attributable to Dwight D. Eisenhower

May 31, 2022

THE BACK PAGE EXPLAINED

From time-to-time we provide this summary description of our "back page." Each fund listed corresponds to an asset class we list quarterly in our [Sample Portfolios Table](#). Here we describe key statistics for each fund.

We review investment vehicles to ensure that we list the optimal funds for each asset class. Our process is completely independent – we select from the universe of over 7,000 mutual funds and exchange-traded funds. This is an ongoing "horse race" in which we have no favorites. Our valuation is completely objective and based solely on strict, measurable criteria.

For each asset class we have listed at least one open-end mutual fund and one exchange-traded fund (ETF). ETFs may be preferred by readers who hold their assets through a broker, while the open-end funds might be more suitable for readers who prefer to invest directly with a mutual fund family.

Our Criteria

The **Average Market Cap** statistic provides the geometric average market capitalization of the underlying stocks held in each fund. This statistic is important among equities because small cap stocks have historically tended to provide higher long-term returns than large cap stocks, but their returns are more volatile. For example, the DFA Small Cap Value ETF has an average market cap of only 2.75 billion while the average holding in the Vanguard Value Index (a large cap fund) is 102.49 billion.

Fixed income funds provide a means of offsetting the inherent volatility of equities. The **Duration** of a fund is important because, other things equal, high duration bonds and bond funds are more interest rate sensitive (i.e. more volatile) than low duration bonds and bond funds. We provide the Average Maturity statistic for each fixed income fund on our list.

The **Number of Holdings** is provided for each of our listed funds. To minimize company and industry-specific risk (for which investors are not compensated with additional expected return), we list only well diversified funds. While some aim to replicate the performance of a particular commercial index, others (such as those provided by DFA) avoid some of the structural pitfalls of indexing.

Each fund is capitalization-weighted and includes an adequate number of securities to ensure it captures the risk profile of its targeted asset class.

To meet one's financial objectives, investment costs must be monitored closely. The **Expense Ratio** column provides each fund's annual operating expenses divided by the average dollar value of the assets in the fund. These expenses typically include recordkeeping, custodial services, taxes, and legal, accounting and auditing fees. Certain costs, such as bid-ask trading spreads, are not included in the expense ratio, but are reflected in annualized returns.

Expense ratios can vary greatly, depending on the investment category. For example, expense ratios for small cap and foreign equity funds are higher than those of U.S. market wide funds. All else equal expense ratios will also be lower for funds with more assets under management versus smaller funds. We avoid listing funds until we are convinced they have reached a threshold that suggests they can be run cost-effectively and have staying power.

The **Turnover Ratio** is the percentage of each fund's holdings that have been replaced (or "turned over") with other holdings within the preceding 12 months. Turnover is a gauge of trading activity. It provides some insight regarding trading costs; these costs (such as bid-ask spreads) are not included in the fund's expense ratio. High turnover can also indicate high capital gains taxes, which are related directly to frequency of trading. Investors in taxable accounts should consider turnover and after-tax returns in their analysis.

The **Price/Book Ratio** is calculated by dividing a stock's closing market price per share by the company's most recent book value per share. We have listed the average price/book ratio of the stocks in each fund. The market assigns lower prices to distressed (value) stocks compared to growth stocks. Value stocks bear greater risk than growth stocks and therefore have higher expected returns.

Financial assets provide returns through capital appreciation as well as through investment income (interest and dividends). The **12 Month Yield** provides a measure of income return for each fund. It is calculated by dividing the sum of the trailing twelve months' income distributions by the sum of the last

month's ending Net Asset Value and any capital gains distributed over the trailing twelve months.

The **Rate of Return** of a fund includes interest, capital gains, dividends and distributions realized over each time period listed. Return is calculated by subtracting investment value at the beginning of period from the sum of the fund's end of period value and its income and capital gain distributions. This return is expressed as a percentage gain or loss over the initial investment.

The **After-Tax Rate of Return** is calculated using the tax liability of each fund's declared distribution, assuming the investor does not sell the fund shares at the time specified. The calculation assumes the highest tax federal income bracket at the time of distribution.

The criteria described here reflect only a few of the factors we assess when selecting funds. A fund's inception date, the extent to which it engages in securities lending, and its trading practices are among just a few of the many variables we weigh. Considerations also include intangibles such as the reputation of a fund family with respect to investor services and web site access.

New Funds

This month we have added five new ETFs to our line up on the back page. These funds are simply ETF versions of conventional open-end mutual funds Dimensional Fund Advisors has managed effectively for many years.

The new funds (highlighted in yellow), include the DFA Core Fixed Income, U.S. Inflation Protected, U.S. Equity, U.S. Marketwide Value and U.S. Small Value ETFs. Though these new ETFs have a short history, each corresponds to an open-end mutual fund that DFA has managed for many years. The statistics we publish represent those of the mutual fund. While DFA's mutual funds are only available through select registered investment advisors, their ETFs are available to the investing public.

As we have explained previously, DFA does not employ a strict indexing approach. While their funds share similarities with index funds, DFA adopts rules based operating practices that avoid several vulnerabilities inherent in indexing strategies.

THE HIGH-YIELD DOW INVESTMENT STRATEGY

HYD Model Portfolio

As of May 15, 2022

	Rank	Yield (%)	Price ($)	Status	Percent of Portfolio	
					Value (%)	No. Shares (%)[1]
Verizon	1	5.31	48.18	Buying	19.07	32.53
IBM	2	4.94	133.60	Holding**	22.62	13.92
Walgreen Boots	3	4.39	43.55	Holding**	4.01	7.56
Dow, Inc.	4	4.14	67.56	Holding**	24.57	29.90
3M Company	5	3.99	149.30	Holding	1.48	0.81
Chevron	6	3.38	167.87	Selling	28.03	13.73
Kyndryl	N/A	N/A	11.37	Selling	0.21	1.54
Cash (6-mo. T-Bill)	N/A	N/A			0.01	N/A
Totals					100	100

**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 (closing prices on the date indicated), 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 April 30, 2022*. Returns for the 5-,10- and 20-year periods and since 1979 are annualized, as is the volatility (standard deviation) of returns.

	1 mo.	1 yr.	5 yrs.	10 yrs.	20 yrs.	since Jan 79	Volatility since 1979
HYD Strategy	-1.55	14.28	9.68	11.93	8.90	14.23	17.48
Russell 1000 Value Index	-5.64	1.32	9.06	11.17	7.95	11.81	14.77
S&P 500 Index	-8.72	0.21	13.66	13.67	9.09	12.02	15.07
Dow Jones Industrial Average	-4.82	-0.82	11.96	12.20	8.78	12.36	14.90
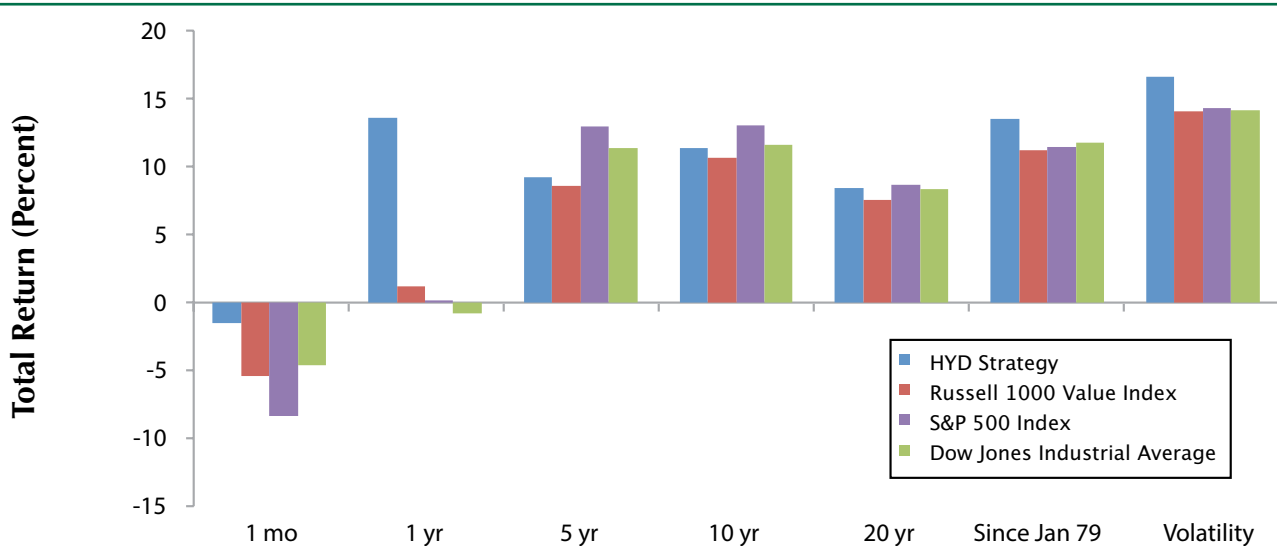
*Data assume all purchases and sales at mid-month prices (+/–$0.125 per share commissions), reinvestment of all dividends and interest, and no taxes. Model HYD calculations are based on hypothetical trades following a very exacting stock-selection strategy. They do not reflect returns on actual investments 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 Average 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 1% management fee, the annual rate assessed to a $500,000 account managed through our Professional Asset Management service.

Unless otherwise specified, returns and data cited within this publication are derived from the following sources: U.S. stock benchmarks: U.S. Marketwide - Russell 3000 Index; U.S. Large Cap Stocks - Russell 1000 Index; U.S. Large Cap Value - Russell 1000 Value Index; U.S. Large Cap Growth - Russell 1000 Growth Index; U.S. Midcap Stocks - Russell Midcap Index; U.S. Small Cap Stocks - Russell 2000 Index; U.S. Small Cap Value - Russell 2000 Value Index; U.S. Small Cap Growth - Russell 2000 Growth Index; U.S. Microcaps - Russell Microcap Index. Fixed income benchmarks: Cash & Equivalents - ICE BofAML US 3-Month Treasury Bill Index; U.S. 1-Year Treasury Notes - ICE BofA 1-Year US Treasury Note Index; U.S. Short-Term Investment Grade - Bloomberg US Government/Credit Bonds Index 1-5 Years; U.S. Bonds - Bloomberg US Aggregate Bond Index; U.S. Government Bonds - Bloomberg US Government Bond Index; TIPS - Bloomberg US TIPS Index; Municipal Bonds - Bloomberg Municipal Bond Index 5 Years; Foreign Bonds (hedged) - FTSE Non-USD World Government Bond Index 1-5 Years (hedged to USD). Foreign stock benchmarks: All returns in U.S. dollars. Developed Markets - MSCI World ex USA Index (net div.); Developed Markets Value - MSCI World ex USA Value Index (net div.); Developed Markets Growth - MSCI World ex USA Growth Index (net div.); Developed Markets Small Cap - MSCI World ex USA Small Cap Index (net div.); Developed Markets Small Cap Value - MSCI World ex USA Small Value Index (net div.); Developed Markets Small Cap Growth - MSCI World ex USA Small Growth Index (net div.); Emerging Markets - MSCI Emerging Markets Index (net div.); Emerging Markets Value - MSCI Emerging Markets Value Index (net div.). Real estate benchmarks: Global REITs - S&P Global REIT Index (net div.); U.S. REITs - S&P United States REIT Index (gross div.); International REITs - S&P Global ex US REIT Index (net div.). Gold benchmark: Gold price: LBMA price. All return data from DFA Returns 2.0 program (gold returns based on spot price) and Currency data from St. Louis Federal Reserve. Country performance provided by Dimensional Fund Advisors, based on respective indexes in the MSCI All Country World ex USA IMI Index (for developed markets) and MSCI Emerging Markets IMI Index. Sector returns represented by S&P 500 sectors.

RECENT MARKET STATISTICS

Precious Metals & Commodity Prices ($)

	5/15/22	Mo. Earlier	Yr. Earlier	Prem. (%)
Gold, London p.m. fixing	**1,811.55**	1,963.25	1,757.20	
Silver, London Spot Price	**20.84**	25.66	25.59	
Crude Oil, W. Texas Int. Spot	**105.00**	106.84	63.42	

Coin Prices ($)[1]

	5/15/22	Mo. Earlier	Yr. Earlier	Prem. (%)
American Eagle (1.00)	**1,889**	1,889	1,916	4.25
Austrian 100-Corona (0.9802)	**1,776**	1,776	1,802	0.00
British Sovereign (0.2354)	**426**	426	433	0.00
Canadian Maple Leaf (1.00)	**1,857**	1,857	1,883	2.48
Mexican 50-Peso (1.2057)	**2,184**	2,184	2,216	0.00
Mexican Ounce (1.00)	**1,830**	1,830	1,856	0.99
S. African Krugerrand (1.00)	**1,857**	1,857	1,883	2.48
U.S. Double Eagle-$20 (0.9675)				
St. Gaudens (MS-60)	**2,030**	2,030	1,737	n/a
Liberty (Type II-AU50)	**1,927**	1,927	1,757	n/a
Liberty (Type III-AU50)	**1,907**	1,907	1,732	n/a
U.S. Silver Coins ($1,000 face value, circulated)				
90% Silver Circ. (715 oz.)	**21,861**	21,861	18,325	n/a
40% Silver Circ. (295 oz.)	**7,217**	7,217	6,947	n/a

[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. Premiums will vary; these indicated premiums are provided in The CDN Monthly Greysheet.

Recent Market Returns
Data through April 30, 2022

	U.S. Stocks (Mktwd)	Foreign Dev. Stocks	Foreign Emerg. Stocks	Global REITs	U.S. Bonds	Foreign Bonds (hedged)	Gold
1-month	-8.97% ↓	-6.57% ↓	-5.56% ↓	-4.85% ↓	-3.79% ↓	-0.65% ↓	-2.09% ↓
3-month	-8.39% ↓	-6.95% ↓	-10.45% ↓	-1.98% ↓	-7.51% ↓	-1.77% ↓	5.55% ↑
1 year	-3.11% ↓	-6.66% ↓	-18.33% ↓	5.87% ↑	-8.51% ↓	-2.29% ↓	7.22% ↑
5 year (annualized)	13.01% ↑	5.25% ↑	4.32% ↑	5.91% ↑	1.20% ↑	1.28% ↑	8.38% ↑
15 year (annualized)	9.12% ↑	2.32% ↑	3.08% ↑	3.09% ↑	3.25% ↑	2.15% ↑	7.06% ↑

Best and worst one-year returns, Jan. 2001 - Apr. 2022

	U.S. Stocks (Mktwd)	Foreign Dev. Stocks	Foreign Emerg. Stocks	Global REITs	U.S. Bonds	Foreign Bonds (hedged)	Gold
Best	**62.5%**	**57.2%**	**91.6%**	**85.7%**	**13.8%**	**7.1%**	**54.6%**
During:	04/2020-03/2021	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%**	**-8.5%**	**-2.3%**	**-28.0%**
During:	03/2008-02/2009	03/2008-02/2009	12/2007-11/2008	03/2008-02/2009	05/2021-04/2022	05/2021-04/2022	12/2012-11/2013

THE DOW JONES INDUSTRIALS RANKED BY YIELD*

	Ticker Symbol	Market Prices ($) 5/15/22	4/15/22	5/15/21	12-Month ($) High	Low	Latest Dividend Amount ($)	Record Date	Payable Date	Indicated Annual Dividend ($)	Yield† (%)
Verizon	VZ	48.18	53.83	58.87	57.61	45.55	0.640	4/8/22	5/2/22	2.560	5.31
IBM	IBM	133.60	126.56	144.60	146.12	114.56	1.650	5/10/22	6/10/22	6.600	4.94
Walgreen's	WBA	43.55	44.81	54.71	55.82	39.72	0.478	5/20/22	6/10/22	1.910	4.39
Dow Chemical	DOW	67.56	65.49	69.83	71.86	52.07	0.700	5/31/22	6/10/22	2.800	4.14
3M Company	MMM	149.30	147.38	204.38	206.81	139.74	1.490	5/20/22	6/12/22	5.960	3.99
Chevron	CVX	167.87	171.59	109.47	175.99	92.86	1.420	5/19/22	6/10/22	5.680	3.38
J P Morgan	JPM	119.09	126.12	164.01	172.96	115.02	1.000	7/6/22	7/31/22	4.000	3.36
Intel Corp	INTC	43.60	45.67	55.35	58.42	40.31	0.365	5/7/22	6/1/22	1.460	3.35
Amgen	AMGN	243.40	254.02	251.38	258.45	198.64	1.940	5/17/22	6/8/22	7.760	3.19
Cisco	CSCO	49.56	51.17	52.90	64.29	41.02	0.380	4/6/22	4/27/22	1.520	3.07
Merck	MRK	90.41	86.91	78.29	94.92	70.89	0.690	3/15/22	4/7/22	2.760	3.05
Coca-Cola	KO	65.72	65.02	54.73	67.20	52.28	0.440	6/15/22	7/1/22	1.760	2.68
Goldman Sachs	GS	306.99	321.64	368.57	426.16	293.90	2.000	6/1/22	6/29/22	8.000	2.61
Home Depot, Inc.	HD	296.03	304.52	323.81	420.61	279.59	1.900	6/2/22	6/16/22	7.600	2.57
Johnson & Johnson	JNJ	176.85	179.90	170.22	186.69	155.72	1.130	5/24/22	6/7/22	4.520	2.56
Proctor and Gamble	PG	153.62	158.57	138.01	165.35	131.94	0.913	4/22/22	5/16/22	3.652	2.38
McDonald's	MCD	245.04	250.51	231.72	271.15	217.68	1.380	3/1/22	3/15/22	5.520	2.25
Caterpillar	CAT	204.33	227.81	242.22	246.69	179.67	1.110	4/25/22	5/20/22	4.440	2.17
Travelers	TRV	172.78	184.24	160.51	187.98	144.44	0.930	6/10/22	6/30/22	3.720	2.15
Honeywell	HON	193.53	195.19	227.36	236.86	174.42	0.980	5/13/22	6/3/22	3.920	2.03
Wal-Mart Stores	WMT	148.05	157.08	139.49	160.77	117.27	0.560	8/12/22	9/6/22	2.240	1.51
American Express	AXP	158.75	181.16	157.15	199.55	149.71	0.520	7/1/22	8/10/22	2.080	1.31
Unitedhealth Group	UNH	485.40	534.82	409.80	553.29	383.12	1.450	3/14/22	3/22/22	5.800	1.19
Nike	NKE	113.01	133.46	135.93	179.10	103.46	0.305	6/6/22	7/1/22	1.220	1.08
Microsoft Corp.	MSFT	261.12	279.83	248.15	349.67	243.00	0.620	5/19/22	6/9/22	2.480	0.95
Visa Inc.	V	199.23	212.79	226.94	252.67	186.67	0.375	5/13/22	6/1/22	1.500	0.75
Apple	AAPL	147.11	165.29	127.45	182.94	123.13	0.230	5/9/22	5/12/22	0.920	0.63
Walt Disney	DIS	107.33	130.47	173.70	187.58	99.47	0.000	No dividend		0.000	0.00
Salesforce	CRM	166.91	189.41	217.58	311.75	154.55	0.000	No dividend		0.000	0.00
Boeing	BA	127.20	181.94	228.35	258.40	117.08	0.000	No dividend		0.000	0.00

† Based on indicated dividends and market price as of 5/15/22. Extra dividends are not included in annual yields.
All data adjusted for splits and spin-offs. 12-month data begins 5/15/21.

ASSET CLASS INVESTMENT VEHICLES

Data as of May 27, 2022

		Security Symbol(s) (1) Mutual Fund	Security Symbol(s) (1) ETF	Avg. Market Cap / Duration	Number of Holdings	Expense Ratio (%)	Turnover (%)	Price-to-Book Ratio	Trailing 12-Mo. Yield (%)	Annualized Returns (%) 3-Year	5-Year	10-Year	Tax Cost Ratio - 3 Years (%) (3)
Fixed Income													
Short-Term Bonds	Vanguard Short-Term Bond Adm	VBIRX	BSV	2.68 yrs	2,645	0.07	37		1.14	0.81	1.22	1.23	0.67
Short-Term Bonds	SPDR Portfolio Short Term Corp Bd ETF		SPSB	1.90 yrs	1,159	0.04	56		1.01	1.25	1.65	1.64	0.74
Short-Term Bonds	iShares 1-3 Year Treasury Bond ETF		SHY	1.89 yrs	69	0.15	148		0.25	0.55	0.92	0.71	0.39
Core Bonds	Vanguard Total Bond Market Adm	VBTLX	BND	6.74 yrs	17,249	0.05	69		2.11	0.46	1.31	1.76	0.93
Core Bonds	iShares Core US Aggregate Bond ETF		AGG	6.78 yrs	10,343	0.04	163		1.89	0.30	1.27	1.73	0.86
Core Bonds	DFA Core Fixed Income	DFAPX	DFCF	6.49 yrs	808	0.20	17		2.21	0.73	1.50	2.03	0.97
Tax-Exempt	Vanguard Ltd-Term Tax-Exempt Inv	VMLTX		2.27 yrs	9,899	0.17	37		1.20	0.71	1.17	1.22	0.00
Tax-Exempt	Vanguard Interm-Term Tx-Ex Inv	VWITX		4.35 yrs	13,999	0.17	18		2.23	0.67	1.67	2.28	0.01
Inflation-Protected	iShares TIPS Bond ETF		TIP	7.44 yrs	50	0.19	34		5.53	4.67	3.66	1.95	1.14
Inflation-Protected	Vanguard Inflation-Protected Securities Inv	VIPSX		7.37 yrs	48	0.20	24		6.27	4.85	3.62	1.95	1.29
Inflation-Protected	DFA Inflation-Protected Securities	DIPSX	DFIP	7.59 yrs	21	0.11	1		5.91	4.90	3.79	2.10	1.25
International	Vanguard Total International Bond Adm	VTABX	BNDX	7.99 yrs	6,685	0.11	25		3.24	-0.68	1.23	n/a	1.03
Real Estate (REITs)													
U.S. REITs	Vanguard REIT Adm	VGSLX	VNQ	24.23 B	167	0.12	7	2.74	2.90	8.10	7.98	9.03	1.39
U.S. REITs	SPDR Dow Jones REIT		RWR	18.36 B	119	0.25	6	2.27	2.80	6.08	6.52	7.98	1.44
Int'l REITs	Vanguard Global ex-US Real Estate Adm (2)	VGRLX	VNQI	5.68 B	741	0.12	7	0.83	7.14	-1.18	1.69	5.52	1.81
Int'l REITs	iShares International Developed Property		WPS	5.87 B	412	0.48	16	0.87	4.49	-0.11	1.90	5.83	1.64
Global (incl. U.S.)	SPDR Dow Jones Global Real Estate ETF		RWO	12.58 B	279	0.50	6	1.57	3.13	3.51	4.26	6.45	1.44
U.S. Stocks													
Large Cap (blend)	Vanguard S&P 500 Adm	VFIAX	VOO	195.68 B	508	0.04	2	3.53	1.45	15.63	13.46	14.37	0.40
Large Cap (blend)	DFA US Equity ETF	DUSQX	DFUS	141.87 B	690	0.13	7	3.62	1.26	15.49	13.16	n/a	0.68
Large Cap Value	Vanguard Value Adm	VVIAX	VTV	103.43 B	351	0.05	9	2.36	2.29	13.43	11.55	13.26	0.62
Large Cap Value	DFA US Marketwide Value	DFLVX	DFUV	69.55 B	370	0.22	0	1.93	1.68	13.01	9.65	13.21	0.96
Small Cap (blend)	iShares Core S&P Small-Cap ETF		IJR	2.02 B	606	0.06	20	1.55	1.67	13.02	9.97	12.79	0.49
Small Cap (blend)	DFA US Small Cap	DFSTX	DFAS	2.89 B	2,057	0.27	12	1.86	1.01	12.76	8.87	11.89	0.93
Small Cap Value	Vanguard Small Cap Value Adm	VSIAX	VBR	5.55 B	929	0.07	16	1.63	1.89	12.32	9.08	12.23	0.53
Small Cap Value	iShares Micro-Cap		IWC	0.57 B	1,767	0.60	35	1.34	0.90	10.26	7.69	10.79	0.36
Small Cap Value	DFA US Small Cap Value	DFSVX	DFSV	2.74 B	1,023	0.30	22	1.19	1.42	15.99	9.48	11.92	1.31
Marketwide	Vanguard Total Stock Market Adm	VTSAX	VTI	114.32 B	4,115	0.04	4	3.21	1.42	14.72	12.80	13.96	0.38
Marketwide	DFA US Core Equity Market ETF	DFEOX	DFAU	77.02 B	2,485	0.14	4	3.05	1.28	15.39	12.60	13.92	0.76
Foreign Stocks													
Developed Markets	Vanguard FTSE Developed Markets Adm	VTMGX	VEA	28.32 B	4,143	0.07	3	1.48	3.25	7.02	4.93	7.58	0.75
Developed Markets	DFA International Core Equity	DFIEX	DFIC	12.85 B	5,347	0.24	8	1.35	3.31	7.97	4.92	7.88	0.87
Emerging Markets	Vanguard Emerging Markets Stock Adm	VEMAX	VWO	23.57 B	4,536	0.14	9	1.57	3.06	5.32	3.61	4.05	0.88
Emerging Markets	DFA Emerging Markets Core Equity	DFCEX	DFAE	13.38 B	6,616	0.39	10	1.29	2.89	7.28	4.21	4.97	0.81
Gold-Related Funds													
Gold ETFs	SPDR Gold Minishares		GLDM			0.10			0.00	12.68	n/a	n/a	0.00
Gold ETFs	GraniteShares Gold Trust		BAR			0.17			0.00	12.65	n/a	n/a	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, Adm indicates the Admiral share class; Inv indicates the Investor share class is shown. (2) VGRLX 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. The calculation assumes investors pay the maximum federal rate on capital gains and ordinary income. The calculation comes directly from Morningstar.

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