



See box, page 70, for representative indexes.

Rate Inversion, the Economy, and the Stock Market

A great deal of attention is being paid to yield curve, which is currently “inverted”, and what that might portend for the economy as well as the stock market. Investors should be circumspect with regard to the headlines. Recent research provides more useful insights.

The U.S. yield curve plots current interest rates for fixed income securities ranging from one month to thirty years. Normally this curve is upward sloping, indicating a positive relationship between rates and bond maturity; that is, long term bonds provide higher yields than short term bonds. This is because long term bonds lock up an investor’s capital for a longer period of time, so they bear greater term risk. All else equal, a long-term bond investor is rewarded for assuming this risk.

Occasionally, however, yield curves invert, so that short term rates rise above long term rates. Inverted curves have preceded the last seven recessions, and several empirical studies show that the slope of the curve is a reliable predictor of economic activity. In fact our parent, AIER, includes the steepness of the yield curve among its leading indicators of expansion or contraction.

This outcome often leads investors to ask whether the inverted curve also predicts low stock market returns, and whether negative returns could be avoided by reducing equity exposure after the yield curve has inverted. Recent research (Fama French, July 2019¹) evaluated this question by studying yield curves in the U.S. and in developing countries spanning capital market data between 1975 and 2018. They found no evidence that yield curve inversions can help investors to avoid poor stock returns.

We are not surprised by this finding. The stock market after all, like the yield curve, is itself a leading indicator of economic activity. The stock market is a forward-looking mechanism that constantly discounts information as soon as it becomes available. Yield curve data is readily available to the investing public, so there is no reason to believe that any predictive information it might reveal would not be reflected in current equity prices.

Rates of Interest

As of September 25, 2019

Government Obligations¹

Fed Funds Rate	1.90%
3-Month Treas. Bill	1.90%
10-Yr. Treas. Note	1.72%
30-Yr. Treas. Bond	2.16%
10-Yr. TIPS	0.11%
Muni Bonds - Nat'l 10-Yr.	1.40%

Mortgage Rates²

15-Yr Fixed	3.21%
30-Yr Fixed	3.73%

Banking³

Savings	0.09%
Money Market	0.18%
12-month CD	0.53%

[1] Federal Reserve, fmsbonds.com. Annualized Rates. Notes, bonds, TIPS reflect yield to maturity.

[2] Freddie Mac. Average (National average mortgages with 0.5 points).

[3] FDIC. Average national rates, non-jumbo deposits (<\$100k).

1. <https://famafrench dimensional.com/essays/inverted-yield-curves-and-expected-stock-returns.aspx>

THE RETURN OF THE CENTURY BOND

Below we republish an article¹ written by Joakim Book, a visiting scholar at our parent organization, AIER. It is notable that borrowers are issuing these bonds in order to take advantage of low prevailing interest rates. However, we do not recommend century bonds for household investors. Though price inflation has been mild, and interest rates are very low, it is not prudent to “reach for yield” by accepting greater term risk. Bonds are useful to hold alongside equities as a source of portfolio stability. But these ultra-long term instruments could defeat that purpose because their prices are extremely interest-rate sensitive and vulnerable to long-term monetary inflating.

When your regular purchases or much-desired iPhones are on sale, you splurge. Taking advantage of a discount or a temporary sale for a product you want or had planned to buy anyway is a prudent move; it makes a lot of financial sense. In a surprise twist of unconventional monetary policy, universities and other well-established institutions are doing the same thing by resurrecting the market for very long-term bonds.

When central banks around the world, following the financial crisis, lowered their target interest rates and embarked on large-scale asset purchases, they did so to stimulate the economy through well-known transmission channels (for instance, the interest rate or wealth effect). In a sense, unconventional monetary policies were extreme in magnitude only.

What they did not anticipate was the revival of the market for 100-year bonds.

Fixed Debt and Inflation

When making a nominally fixed debt contract, a creditor stands to gain if inflation turns out lower than the parties were foreseeing at the time of the contract, as the creditor receives repayment in cash that has a higher-than-anticipated purchasing power. Similarly, a debtor gains if inflation runs higher than the parties were expecting, since his debt is repaid with money of lower purchasing power. Lending at fixed interest rates over very long time periods therefore

becomes increasingly risky if the range of plausible inflation over 20-, 50-, or 100-year periods is large or very hard to forecast.

In the era of the classical gold standard, when commodity standards anchored the long-term price level and ensured that periods of temporary price inflation would soon reverse themselves, the really long-term markets for debt were flourishing.

Even before then, some of the most impressive financial innovations in history concerned the consolidation of sprawling government debt into a single asset: perpetuities. These were government bonds that would pay interest forever, the most famous example being the British Consol, whose latest issuance during World War I was just repaid a few years ago.

The perpetuities, the exemplary long-term bonds, were not an exclusively British phenomenon or even consigned to the public sector. François Velde recounts the story of France’s 18th-century government debt, some of which still exists and yields interest payments today. In 2003, Yale finance professors William Goetzmann and Geert Rouwenhorst acquired a Dutch water company’s perpetual bond, originally issued in 1648, for which the professors to this day collect interest from what is today the Utrecht water board (Goetzmann recounts the story in Chapter 14 of his recent book *Money Changes Everything*).

These instruments could exist only because the risk of inflation devaluing a nominally fixed loan was very low and the safety and predictability of long-dated bonds were much appreciated by investors and borrowers alike. You simply did not have to concern yourself with long-term inflation risk.

For the last century or more, this has not been the case. One accidental victim of the central bank-induced transition to positive trend inflation was the market for very long bonds, noted Larry White, George Selgin, and Bill Lastrapes in an underappreciated paper from 2012. With this additional risk of inflation wiping out the purchasing power of loans repaid a century hence (or interest rate payments in the case of perpetuities), the market for such loans virtually disappeared.

Shorter-dated liabilities completely dominated.

Following the last few years of record-low yields, first on government debt and more recently on private sector debt, we have seen an unexpected twist: the renewal of this long-dead market. Pension funds and insurance money looking for long-term projects with predictable and safe payoffs have come together with increasingly cash-strapped universities taking advantage of the cheap money to expand their research facilities (and, incidentally, fancy non-academic facilities in order to attract students).

Although bond financing has long been done by many elite American universities, the practice has exploded in recent years. In January, Georgetown University privately issued both a 30-year and a 100-year bond at undisclosed rates, followed by universities in Connecticut and Delaware. Last month, the University of Pennsylvania sold 100-year bonds at a yield of 3.61 percent.

As students and professors begin classes in September, the financing departments of many universities have been very busy: last week University of Virginia sold a 100-year bond at even lower rates — 3.23 percent — while Rutgers University plans to issue \$330 million for 100 years, at a rate not yet announced. MIT’s 2011 century-bond issue at 5.6 percent now looks very expensive.

Americans are not alone in this. In 2017, Oxford University sold a 100-year bond at 2.54 percent and before that the universities in Bristol and Cardiff had issued 100-year bonds at a little over 3 percent. Between 2016 and 2018, more than £3 billion was borrowed by British universities by issuing such long-dated bonds — and globally, the increase is noticeable.

As many of these bonds are dated much longer than their respective governments’ debt, treasuries around the world, including the United States’, are considering issuing bonds of similar maturity. Following the great investor appetite for Austria’s much-derided century bond in 2017, the successful second round of issue at 1.2 percent this summer was bound to make waves. Already in 2016, both Ireland and Belgium successfully floated century bonds at yields

1. <https://www.aier.org/article/return-century-bond>

of around 2.30 percent. The year before that, Mexico, surprisingly, issued a euro-denominated 100-year bond at the now-pricey yield of 4.2 percent.

In the corporate world, French and Brazilian energy companies issued century bonds a few years ago, and Disney recently floated 30-year debt at 95 basis points over Treasury bonds. The recent stampede for German industrial manufacturing company Siemens'

oversubscribed and record-low bonds with between 2 and 15 years to maturity suggests that a new era might be approaching.

Summary

For a long time, the market for long-dated bond issuance was dead as volatile inflation risks made creditors and debtors wary of such assets. Taking

advantage of the record-low interest rates in Europe and the U.S., universities and even established companies like Disney have recently issued century bonds.

An unexpected outcome of central banks' monetary policy has been to revitalize this dormant and long-forgotten section of the bond market that they accidentally destroyed over a century ago. The return of the century bond seems all but guaranteed.

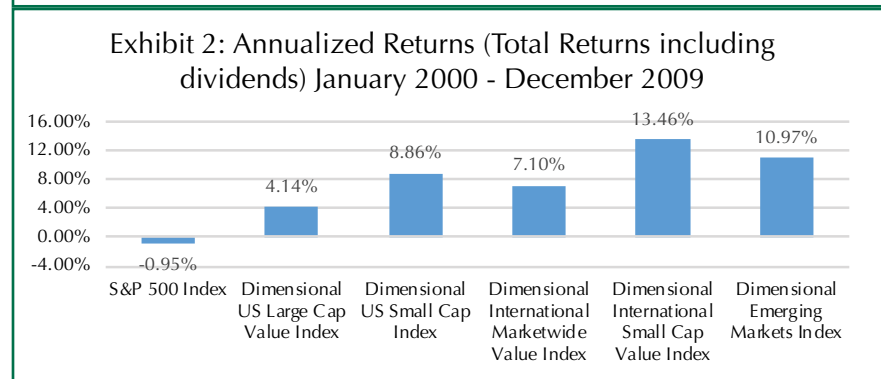
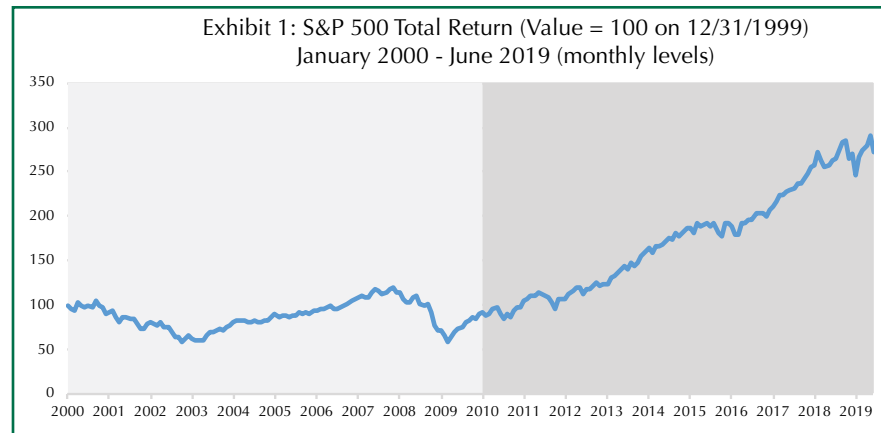
A TALE OF TWO DECADES: LESSONS FOR LONG-TERM INVESTORS

Republished with permission by Dimensional Fund Advisors LP.¹ Due to space limitations, a link to a description of the indexes cited is [embedded](#) (or email us at subscriptions@americaninvestment.com for a printed version of the complete article).

The first decade of the 21st century, and the second one that's drawing to a close, have reinforced for investors some timeless market lessons: Returns can vary sharply from one period to another. Holding a broadly diversified portfolio can help smooth out the swings. And focusing on known drivers of higher expected returns can increase the potential for long-term success. Having a sound strategy built on those principles—and sticking to it through good times and bad—can be a rewarding investment approach.

“The Lost Decade”?

Looking at a broad measure of the US stock market, such as the S&P 500, over the past 20 years, you could be forgiven for thinking of Charles Dickens: It was the best of times and the worst of times (see Exhibit 1)². For US large cap stocks, the worst came first. The “lost decade” from January 2000 through December 2009 resulted in disappointing returns for many who were invested in the securities in the S&P 500. An index that had averaged more than 10% annualized returns before 2000 instead delivered less-than-average returns from the start of the decade to the end. An-



nualized returns for the S&P 500 during that market period were -0.95%.

Yet it was a good decade for investors who diversified their holdings globally beyond US large cap stocks and included other parts of the market with higher expected returns—companies with small market capitalizations or low relative price (value stocks). As Exhibit 2 shows³, a range of indices across many other parts of the global market outper-

formed the S&P 500 during that time span.

Flipping the Script

The next period of nine-plus years reveals quite a different story. It has looked more like best of times for the S&P 500, as the index, when viewed by total return, has more than tripled since
(continued next page)

1. Dimensional Fund Advisors LP is an investment advisor registered with the Securities and Exchange Commission. There is no guarantee investment strategies will be successful. Investing involves risks, including possible loss of principal. Investors should talk to their financial advisor prior to making any investment decision. There is always the risk that an investor may lose money. A long-term investment approach cannot guarantee a profit. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Diversification does not eliminate the risk of market loss. All expressions of opinion are subject to change. This information is intended for educational purposes, and it is not to be construed as an offer, solicitation, recommendation, or endorsement of any particular security, products, or services.
2. Performance data represents past performance and does not predict future performance. Indices not available for direct investment. Performance does not reflect the expenses associated with the management of an actual portfolio. S&P data © 2019 S&P Dow Jones Indices LLC, a division of S&P Global.
3. Ibid., (in U.S. dollars)
4. Ibid.
5. Ibid.

Exhibit 3: Annualized Returns (Total Returns including dividends) January 2010 - June 2019

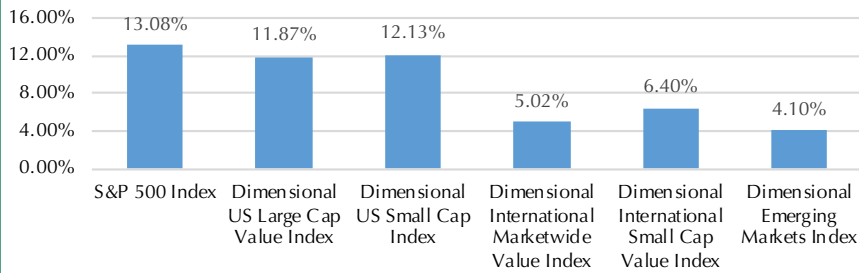
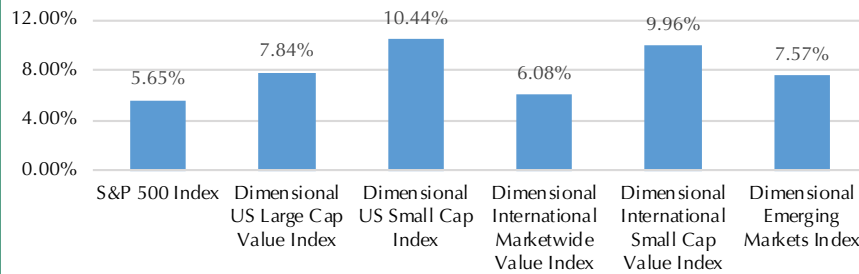


Exhibit 4: Annualized Returns (Total Returns including dividends) January 2000 - June 2019



the start of the decade in the ounce-back from the global financial crisis. U.S. large cap growth stocks have been some of the brightest stars during this span. Accordingly, from 2010 through the first half of 2019, many parts of the market

that performed well during the previous decade haven't been able to outperform the S&P 500, as Exhibit 3 displays⁴. Since many of these asset classes haven't kept pace with the S&P, these returns might cause some to question their allocation

to the asset classes that drove positive returns during the 2000s.

The Case for Great Expectations

It's been stated many times that investors may want to take a long-term perspective toward investing, and the performance of stock markets since 2000 supports this point of view. Over the past 19½ years (see Exhibit 4),⁵ investing outside the US presented investors with opportunities to capture annualized returns that surpassed the S&P 500's 5.65%, despite periods of underperformance, including the most recent nine-plus years. Cumulative performance from 2000 through June 2019 also reflects the benefits of having a diversified portfolio that targets areas of the market with higher expected returns, such as small and value stocks. And it underscores the principle that longer time frames increase the likelihood of having a good investment experience.

No one knows what the next 10 months will bring, much less the next 10 years. But maintaining patience and discipline, through the bad times and the good, puts investors in position to increase the likelihood of long-term success.

RISK: MORE TO THE STORY

Last month in our article *Assessing Risk in Retirement* we described four risks that are relevant to almost all retirees (market risk, longevity risk, inflation risk and emergency spending risk). These "big four", however, are not comprehensive. Here we list several additional risks that should be considered when evaluating financial solutions. Even this list is not exhaustive. But it includes some of the most important perils an investor might confront.

When considering a strategy or financial product, it is smart to begin by asking what risks it is designed to reduce or eliminate, and at what cost. Generally, a product that entirely eliminates one risk can be costly, and may give rise to other risks. As an example, market risk can be all but eliminated through structured annuity products known as [equity-indexed annuities](#). However, these products generally come with high fees (which may not be obvious) and/or restrict potential growth, which can give rise to inflation risk and liquidity risk. The

important thing is to understand the ins and outs of any financial product, what it's trying to achieve, and what you're giving up by using it.

Insurer Risk – The risk that an insurance company becomes insolvent, and cannot pay out a claim or a promised annuity. This risk can be reduced by using products only from highly-rated insurers.

Social Security Risk – The risk that Social Security is not paid out as promised. We view this risk as minimal for those approaching retirement, but meaningful for younger workers (those under age 50). It can be mitigated by increasing saving through employer 401(k) plans and other retirement plans.

Tax Risk – The risk that tax rates rise, or that taxation changes in some other meaningful way. Converting IRAs to Roth status can help mitigate this risk, albeit at a current cost.

Job/Career Risk – The risk that a worker loses his job, either because of a poor economy, a change in technology, or disability. Some of this risk can be

mitigated through insurance and through having adequate emergency savings.

Cyber Risk – The risk that a cyber-criminal hacks your accounts, or the accounts at your financial institution. This risk can be lessened by using well-regarded institutions (for example, we use Charles Schwab or TD Ameritrade as our primary custodians). This risk can also be reduced through education regarding the threats of cybercrime, using proper computer anti-virus software, creating unique passwords, and employing identity theft protection services such as LifeLock.

Company-Specific or Asset Class Risk – The risk that any single company, industry or asset class in which you invest does poorly. This risk is mitigated through portfolio diversification.

Interest Rate Risk – The risk that your bond portfolio loses value due to rising interest rates. This risk is directly related to term risk (longer duration portfolios are more vulnerable than short duration portfolios). It can be reduced by targeting shorter-term bond holdings.

Credit Risk—The risk that a lender (bond issuer) defaults on its debt obligations. This risk can be reduced through diversification and limiting one's bond portfolio to investment-grade bonds.

Liquidity Risk – The risk that you cannot access your money because it is “tied up” in a particular product or investment. This risk can be eliminated

using traditional asset allocation among highly liquid stock and bond mutual funds and ETFs. This risk is relevant to structured investment products such as private equity, private REITs, hedge funds, and annuities with a surrender period.

Behavioral Risk – The risk that poor financial decisions are made based

on emotional influence. For example, many investors “went to cash” during the financial crisis and never re-invested in stocks and bonds, thus depleting the long-term growth prospects of their portfolios. This risk is mitigated through education or by hiring a trusted adviser to help with financial decisions.

A READER INQUIRES

Q -- RE: *Investment Guide: July 31, 2019 - INVESTMENT FALLACIES PART 1: “Always Dollar Cost Average”*

Based on the conclusion of this section, am I correct that “Dollar Cost Averaging Withdrawals” would be more lucrative than lump sum withdrawals?

Thank you

AIS -- We cannot say that DCA withdrawals will always result in superior outcomes versus a lump sum, or vice versa. However, as long as you anticipate a positive expected return, it is preferable to stay invested as long as possible – *on average*.

On this basis, periodic withdrawals on a monthly basis would be preferable to a single lump-sum withdrawal at the beginning of the year. The investments will have longer to potentially grow throughout the year. Similarly, a lump sum withdrawal at the end of the year would be preferable to monthly withdrawals throughout the year, again

because the investment has more opportunity to grow throughout the year.

Consider three alternative strategies for withdrawing \$1,200:

- Option A: a single withdrawal of \$1,200 today
- Option B: withdraw \$100 each month for 12 months
- Option C: a single withdrawal of \$1,200 at the end of 12 months

From an expected return perspective, $C > B > A$.

To repeat: This is true *on average*. Stocks and bonds indeed have a positive expected return -- based on history, returns trend upward. However, returns can be volatile over a short period, and the more heavily tilted toward stocks, the greater is the potential for short-term volatility. This means that in any given year, A, B, or C could end up being the

best option, and it's impossible to know in advance. However, over the course of many years, it should pay off to leave assets invested as long as possible. While there have been long term spans when returns on a balanced portfolio have been negative, these instances have been comparatively rare.

Most investors in retirement must take regular withdrawals to meet expenses. Although we encourage investors to delay withdrawing from their portfolio until the money is needed, withdrawals should by no means be restricted if it results in short-term stress. It is preferable to set up regular withdrawals as needed, even if this means potentially giving up a small amount of expected return over the long term. After all, a primary purpose of money is to help ensure peace of mind. We develop sustainable retirement spending strategies tailored to each of our clients. It may be worth engaging a financial planner if you are approaching retirement.

NEGATIVE INTEREST RATES AND YOUR BOND PORTFOLIO

Currently, negative nominal interest rates can be found in countries worldwide. On the face of it, this is counterintuitive. Who, after all, would invest in a bond with a negative expected return?

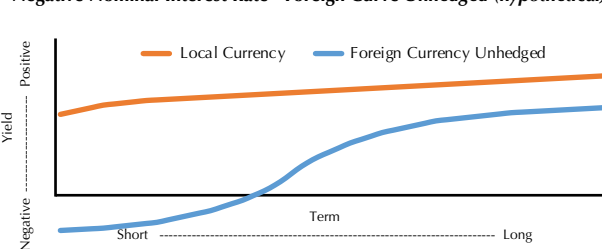
Exchange rates between currencies provide one possible explanation. Bonds with a negative rate of return can earn a positive rate of return when hedged to a currency with a positive short-term interest rate. Recently, for example, an investor could invest in a German bond with a negative yield-to-maturity in euros that, when hedged back to dollars, could earn a positive rate of return. Hedging is typically used for dampening exchange rate volatility associated with investing in foreign bonds, but in this case it can transform a negative yield into a positive yield.

Hedging foreign bonds with negative expected returns can even provide

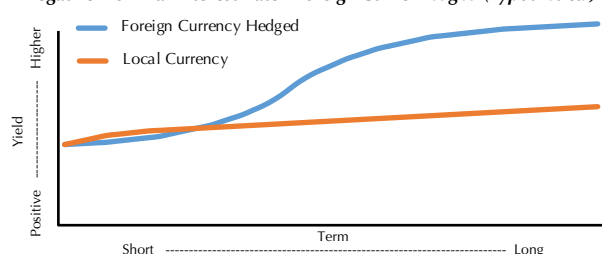
higher expected return opportunities on a hedged basis than positive returns that are available on the local yield curve. This can be pursued when a foreign (upwardly sloped) yield curve is providing negative yields, but is steeper than the local yield curve. This is depicted nearby.

We utilize currency-hedged bonds on behalf of our clients, and we describe a hedged international bond fund available to readers on the back page of this publication.

Negative Nominal Interest Rate - Foreign Curve *Unhedged (hypothetical)*



Negative Nominal Interest Rate - Foreign Curve *Hedged (hypothetical)*



THE HIGH-YIELD DOW INVESTMENT STRATEGY

Recommended HYD Portfolio

As of September 15, 2019

	Rank	Yield (%)	Price (\$)	Status	—Percent of Portfolio—	
					Value (%)	No. Shares (%) ¹
Dow, Inc.	1	5.81	48.20	Buying	8.44	13.27
Exxon Mobil	2	4.79	72.64	Holding**	22.91	23.95
IBM	3	4.51	143.67	Holding**	25.37	13.41
Verizon	4	4.10	59.96	Holding**	26.52	33.59
Chevron	5	3.92	121.50	Selling	10.97	6.86
Pfizer	6	3.90	36.91	Holding	3.72	7.65
Proctor & Gamble	15	2.44	122.12	Holding	2.07	1.29
Cash (6-mo. T-Bill)	N/A	N/A			0.01	N/A
Totals					<u>100.00</u>	<u>100.00</u>

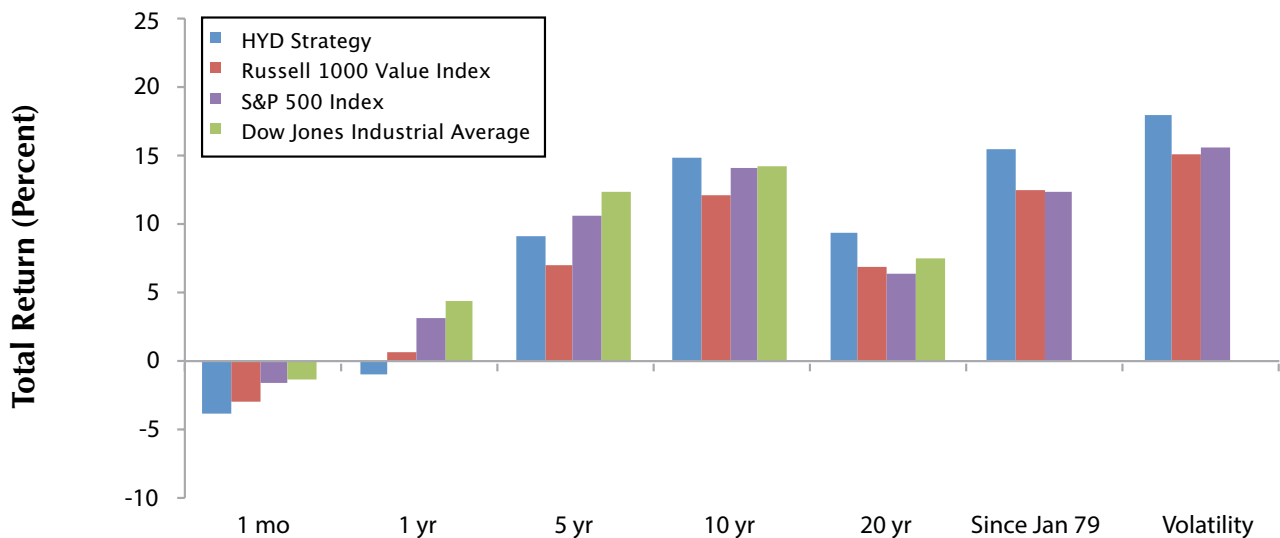
**Currently indicated purchases approximately equal to indicated purchases 18 months ago. ¹Because the percentage of each issue in the portfolio by value reflects the prices shown in the table (closing prices on the date indicated), we are also showing the number of shares of each stock as a percentage 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 August 31, 2019*. Returns for the 5-, 10- and 20-year periods are annualized, as is the volatility (standard deviation) of returns.

	<u>1 mo.</u>	<u>1 yr.</u>	<u>5 yrs.</u>	<u>10 yrs.</u>	<u>20 yrs.</u>	<u>since Jan 79</u>	<u>Volatility since 1979</u>
HYD Strategy		-1.00	8.70	14.18	8.93	14.72	17.10
Russell 1000 Value Index	-3.73	0.62	6.59	11.49	6.56	11.82	14.42
S&P 500 Index	-1.58	2.92	10.11	13.45	6.09	11.78	14.81
Dow Jones Industrial Average	-1.32	4.12	11.77	13.60	7.07	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 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 0.725% 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. Short-Term Investment Grade - Bloomberg Barclays US Government/Credit Bonds Index 1-5 Years; U.S. Bonds - Bloomberg Barclays US Aggregate Bond Index; U.S. Government Bonds - Bloomberg Barclays US Government Bond Index; TIPS - Bloomberg Barclays US TIPS Index; Municipal Bonds - Bloomberg Barclays 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 London PM Fix Price. All data from DFA Returns 2.0 program, except Gold data from World Gold Council 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 (\$)					Recent Market Returns							
	9/13/19	Mo. Earlier	Yr. Earlier	Prem. (%)	Data through August 31, 2019							
					U.S. Stocks (Mktwd)	Foreign Dev. Stocks	Foreign Emerg. Stocks	Global REITs	U.S. Bonds	Foreign Bonds (hedged)	Gold	
Gold, London p.m. fixing	1,503.10	1,515.65	1,201.95		-2.04%	-2.46%	-4.88%	2.44%	2.59%	0.59%	7.06%	↓
Silver, London Spot Price	18.14	17.29	14.22		6.40%	2.09%	-0.17%	5.12%	4.11%	1.68%	17.97%	↑
Crude Oil, W. Texas Int. Spot	63.10	54.51	68.98		↑	↑	↓	↑	↑	↑	↑	↑
Coin Prices (\$)¹					1 year							
American Eagle (1.00)	1,518	1,531	1,227	1.00	↑	↓	↓	↑	↑	↑	↑	↑
Austrian 100-Corona (0.9802)	1,467	1,480	1,172	-0.41	↑	↑	↑	↑	↑	↑	↑	↑
British Sovereign (0.2354)	354	357	283	0.00	↑	↓	↓	↑	↑	↑	↑	↑
Canadian Maple Leaf (1.00)	1,513	1,526	1,212	0.67	↑	↑	↑	↑	↑	↑	↑	↑
Mexican 50-Peso (1.2057)	1,804	1,819	1,441	-0.44	↑	↑	↑	↑	↑	↑	↑	↑
Mexican Ounce (1.00)	1,521	1,534	1,220	1.20	↑	↑	↑	↑	↑	↑	↑	↑
S. African Kruggerand (1.00)	1,510	1,523	1,209	0.47	↑	↑	↑	↑	↑	↑	↑	↑
U.S. Double Eagle-\$20 (0.9675)					↑	↑	↑	↑	↑	↑	↑	↑
St. Gaudens (MS-60)	1,389	1,389	1,230	-4.49	↑	↑	↑	↑	↑	↑	↑	↑
Liberty (Type II-AU50)	1,402	1,402	1,325	-3.59	↑	↑	↑	↑	↑	↑	↑	↑
Liberty (Type III-AU50)	1,382	1,382	1,182	-4.97	↑	↑	↑	↑	↑	↑	↑	↑
U.S. Silver Coins (\$1,000 face value, circulated)					↑	↑	↑	↑	↑	↑	↑	↑
90% Silver Circ. (715 oz.)	11,446	11,446	11,844	-11.78	↑	↑	↑	↑	↑	↑	↑	↑
40% Silver Circ. (295 oz.)	4,686	4,686	4,821	-12.46	↑	↑	↑	↑	↑	↑	↑	↑
¹Premium 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.												
Best and worst one-year returns, Jan. 2001 - August 2019												
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					

THE DOW JONES INDUSTRIALS RANKED BY YIELD*

Ticker Symbol	Market Prices (\$)			12-Month (\$)		Latest Dividend Amount (\$)	Record Date	Payable Date	Indicated Annual Dividend (\$)	Yield† (%)	
	9/13/19	8/15/19	9/14/18	High	Low						
Dow Chemical	DOW	48.20	43.38	n/a	60.52	40.44	0.700	8/30/19	9/13/19	2.800	5.81
Exxon Mobil	XOM	72.64	67.25	82.92	86.89	64.65	0.870	8/13/19	9/10/19	3.480	4.79
IBM	IBM	143.67	131.92	148.33	154.36	105.94	1.620	8/9/19	9/10/19	6.480	4.51
Verizon	VZ	59.96	56.30	54.55	61.58	52.28	0.615	10/10/19	11/1/19	2.460	4.10
Chevron	CVX	121.50	116.95	117.38	127.60	100.22	1.190	8/19/19	9/10/19	4.760	3.92
Pfizer	PFE	36.91	34.48	42.96	46.47	33.97	0.360	8/2/19	9/3/19	1.440	3.90
3M Company	MMM	171.44	156.84	207.88	219.75	154.00	1.440	8/16/19	9/12/19	5.760	3.36
Walgreen's	WBA	55.99	49.29	70.28	86.31	49.03	0.458	8/20/19	9/12/19	1.830	3.27
Caterpillar	CAT	133.78	115.25	144.90	159.37	111.75	1.030	7/22/19	8/20/19	4.120	3.08
J P Morgan	JPM	120.23	105.20	113.50	120.40	91.11	0.900	10/4/19	10/31/19	3.600	2.99
Coca-Cola	KO	54.26	53.87	45.99	55.92	44.25	0.400	9/16/19	10/1/19	1.600	2.95
Johnson & Johnson	JNJ	130.78	130.54	139.49	148.99	121.00	0.950	8/27/19	9/10/19	3.800	2.91
Cisco	CSCO	50.03	46.25	47.40	58.26	40.25	0.350	10/4/19	10/23/19	1.400	2.80
Merck	MRK	82.61	83.46	69.98	87.35	66.10	0.550	9/16/19	10/7/19	2.200	2.66
Procter and Gamble	PG	122.12	117.39	83.61	124.73	78.49	0.746	7/19/19	8/15/19	2.984	2.44
Intel Corp	INTC	52.54	45.70	45.54	59.59	42.36	0.315	11/7/19	12/1/19	1.260	2.40
Home Depot, Inc.	HD	233.98	201.79	209.07	235.49	158.09	1.360	9/5/19	9/19/19	5.440	2.32
Goldman Sachs	GS	219.90	196.18	229.24	234.06	151.70	1.250	8/30/19	9/27/19	5.000	2.27
Travelers	TRV	146.31	145.59	130.01	155.09	111.08	0.820	9/10/19	9/30/19	3.280	2.24
McDonald's	MCD	209.81	218.27	160.84	221.93	161.82	1.160	9/3/19	9/17/19	4.640	2.21
Boeing	BA	379.76	328.00	359.80	446.01	292.47	2.055	8/9/19	9/6/19	8.220	2.16
United Tech.	UTX	138.06	123.74	137.80	144.40	100.48	0.735	8/16/19	9/10/19	2.940	2.13
Unitedhealth Group	UNH	233.61	244.25	265.31	287.94	208.07	1.080	9/16/19	9/24/19	4.320	1.85
Wal-Mart Stores	WMT	117.43	112.69	94.59	119.86	85.78	0.530	12/6/19	1/2/20	2.120	1.81
Apple	AAPL	218.75	201.74	223.84	233.47	142.00	0.770	8/12/19	8/15/19	3.080	1.41
Microsoft Corp.	MSFT	137.32	133.68	113.37	142.37	93.96	0.460	8/15/19	9/12/19	1.840	1.34
American Express	AXP	119.20	122.38	109.56	129.34	89.05	0.390	7/5/19	8/9/19	1.560	1.31
Walt Disney	DIS	137.93	133.41	109.26	147.15	100.35	0.880	7/8/19	7/25/19	1.760	1.28
Nike	NKE	87.32	79.51	83.49	92.79	66.53	0.220	9/3/19	9/30/19	0.880	1.01
Visa Inc.	V	177.27	176.27	147.84	187.05	121.60	0.250	8/16/19	9/3/19	1.000	0.56

† Based on indicated dividends and market price as of 9/15/19. Extra dividends are not included in annual yields.

All data adjusted for splits and spin-offs. 12-month data begins 9/15/18.

ASSET CLASS INVESTMENT VEHICLES

Data as of August 30, 2019

Fixed Income

	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 (%)			Tax Cost Ratio - 3 Years (%) (3)
								1-Year	3-Year	5-Year	
Short-Term Bonds	Vanguard Short-Term Bond Adm	2.80 yrs	2424	0.07	48	2.20	2.20	5.97	2.05	1.93	0.77
Short-Term Bonds	SPDR Portfolio Short Term Corp Bd ETF	1.95 yrs	1176	0.07	56	2.76	2.76	4.95	2.36	2.03	0.90
Short-Term Bonds	iShares 1-3 Year Treasury Bond ETF	1.95 yrs	88	0.15	62	2.09	2.09	4.28	1.47	1.22	0.58
Interm-Term	Vanguard Total Bond Market Adm	8.20 yrs	17354	0.05	54	2.72	2.72	10.40	3.08	3.32	1.10
Interm-Term	iShares Core US Aggregate Bond ETF	7.78 yrs	7493	0.05	146	2.66	2.66	10.32	3.09	3.38	1.05
Tax-Exempt	Vanguard Ltd-Term Tax-Exempt Inv	2.90 yrs	5636	0.17	28	1.88	1.88	4.47	1.78	1.67	0.00
Tax-Exempt	SPDR Nuveen Blimbg Barclays ST MunBd ETF	3.06 yrs	1012	0.20	27	1.35	1.35	4.00	1.33	1.27	0.00
Tax-Exempt	Vanguard Interm-Term Tx-Ex Inv	5.30 yrs	8788	0.17	15	2.64	2.64	8.18	2.92	3.33	0.00
Inflation-Protected	iShares TIPS Bond ETF	7.99 yrs	39	0.19	21	2.10	2.10	7.28	2.73	2.16	0.91
Inflation-Protected	Vanguard Inflation-Protected Securities Inv	8.50 yrs	41	0.20	27	2.34	2.34	7.04	2.58	1.99	1.08
International	Vanguard Total International Bond Adm	9.80 yrs	5976	0.11	22	2.80	2.80	11.54	4.19	4.63	0.97

Real Estate (REITs)

U.S. REITs	Vanguard REIT Adm	15.25 B	188	0.11	24	3.83	3.83	14.97	5.78	8.19	1.50
U.S. REITs	SPDR Dow Jones REIT	14.01 B	96	0.25	6	3.55	3.55	10.08	4.37	7.55	1.51
Int'l REITs	Vanguard Global ex-US Real Estate Adm (2)	6.31 B	609	0.12	7	3.50	3.50	3.97	5.56	3.80	1.64
Int'l REITs	iShares International Developed Property	6.39 B	361	0.48	9	4.20	4.20	5.07	4.70	3.58	1.68
Global (incl. U.S.)	SPDR Dow Jones Global Real Estate ETF	10.45 B	229	0.50	11	3.28	3.28	7.49	3.41	4.83	1.41

U.S. Stocks

Large Cap (blend)	Vanguard S&P 500 Adm	111.60 B	515	0.04	4	1.97	1.97	2.92	12.58	10.08	0.58
Large Cap (blend)	iShares Core S&P 500	111.19 B	509	0.04	5	2.02	2.02	2.80	12.48	10.07	0.51
Large Cap (blend)	iShares Russell 1000 ETF	85.23 B	1002	0.15	6	1.88	1.88	2.33	12.21	9.71	0.48
Large Cap Value	Vanguard Value Adm	84.98 B	355	0.05	8	2.63	2.63	0.65	9.98	8.31	0.75
Large Cap Value	iShares Russell 1000 Value	57.87 B	764	0.19	17	2.39	2.39	0.45	7.71	6.44	0.61
Small Cap (blend)	iShares Core S&P Small-Cap ETF	1.69 B	606	0.07	14	1.48	1.48	-15.09	7.90	7.83	0.38
Small Cap (blend)	Schwab US Small-Cap ETF	2.93 B	1732	0.04	9	1.45	1.45	-10.21	7.57	6.27	0.43
Small Cap Value	Vanguard Small Cap Value Adm	3.62 B	861	0.07	18	2.36	2.36	-10.45	5.93	5.55	0.67
Small Cap Value	iShares Russell 2000 Value	1.55 B	1394	0.24	26	1.92	1.92	-15.02	4.65	4.44	0.56
Small Cap Value	iShares Micro-Cap	0.43 B	1388	0.60	25	1.34	1.04	-20.63	5.09	4.30	0.31
Marketwide	Vanguard Total Stock Market Adm	64.99 B	3609	0.04	3	1.83	1.83	1.41	12.14	9.58	0.65
Marketwide	Fidelity Total Market Index	65.06 B	3440	0.02	8	1.73	1.73	1.33	12.14	9.57	0.90

Foreign Stocks

Developed Markets	Vanguard FTSE Developed Markets Adm	23.29 B	3940	0.07	3	2.89	2.89	-5.01	5.66	2.11	0.79
Developed Markets	iShares Core MSCI EAFE ETF	23.74 B	2484	0.07	2	3.29	3.29	-3.72	5.49	2.37	0.84
Emerging Markets	Vanguard Emerging Markets Stock Adm	21.33 B	4148	0.14	11	2.67	2.67	-1.05	5.02	0.24	0.84
Emerging Markets	Schwab Emerging Markets Equity ETF	30.35 B	1224	0.13	18	3.20	3.20	-0.95	5.21	0.54	0.81

Gold-Related Funds

Gold ETFs	SPDR Gold Minishares	GLDM		0.18		0.00	0.00	26.67	n/a	n/a	0.00
Gold ETFs	GraniteShares Gold Trust	BAR		0.17		0.00	0.00	26.79	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 is shown; Inv indicates the Investor share class is shown. (2) VGRXL 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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