


* See page 92 for representative indexes.

The Investment Guide is intended to provide useful information to investors who manage their own financial assets. We also provide low cost discretionary asset management services for individuals and institutions seeking professional advice and assistance in implementing an investment strategy.

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## High Yield Anxiety Bonds

In June we reminded our readers that, while investment grade corporate bonds are a worthy portfolio diversifier, highyield or "junk" bonds are far more volatile and therefore unsuitable for most household investors. Junk bonds are loans to firms with dubious credit quality (these bonds are graded Ba or lower by Moody's Investor's Service, or BB+ or lower by Standard \& Poor's).

Because they bear a higher risk of default junk bonds have traditionally offered higher yields than investment-grade bonds. In light of near-zero percent short-term interest rates that have prevailed for the past seven years, many investors have thrown caution to the wind by reaching for these higher yields.

Those who took the plunge were jolted in early December when a junk bond mutual fund, Third Avenue Focused Credit, halted investor redemptions in order to facilitate an orderly sale of its assets. The junk bond universe is dominated by debt issued by energy-related firms, and falling energy prices sparked a rout that quickly spread to other sectors of the high-yield universe. Massive bond defaults have thus far been averted as many energy firms have hedged their exposure to the oil price, but the episode serves as a stark reminder of how quickly and severely credit crises can imperil a fixed income portfolio designed for stability.

These circumstances warrant a review of the important distinctions between investment grade and high-yield corporate bonds.

## Neither Fish nor Foul

Since July 1983 (the longest period of time for which data was available), investment grade bonds have served well as a source of stability that can offset the volatility inherent in common stocks (see Table 1, next page). Compared with U.S. stocks these higher-quality corporate bonds provided lower nominal returns ( $8.1 \%$ versus $10.6 \%$ ), but these returns were far

| Table 1: Performance ${ }^{1}$ 07/1983-11/2015 |  |  |
| :---: | :---: | :---: |
| Asset Class | Annualized Return (\%) | Annualized Volatility (Standard Deviation (\%)) |
| U.S. High Yield (Junk) Bonds | 8.9 | 8.4 |
| U.S. Stocks | 10.6 | 15.3 |
| U.S. Investment Grade Bonds | 8.1 | 5.5 |

more stable; investment grade bonds delivered annualized volatility of $5.5 \%$, or just under one third the $15.3 \%$ annualized volatility of stocks.

During the same period junk bonds turned in total annual returns $8.9 \%$ and annualized volatility of $8.4 \%$. This data suggests that junk bonds lie somewhere between investment grade bonds and stocks on the risk/return spectrum. This characterization is supported by the rolling 12-month historical returns depicted in the chart below. Junk bond returns have generally tracked somewhere between those of stocks and investment grade bonds.

On this basis it might appear reasonable to include junk bonds as part of a well-diversified bond portfolio. But a closer analysis suggests otherwise.

To offset the volatility of stocks investors should seek assets with returns that are not highly correlated with those of stocks. Table 2 shows that investment grade bonds' correlation coefficient with stocks ( 0.26 ) has been roughly half that of junk bonds (0.60). Junk bonds have in fact been more highly correlated with stocks than with investment grade bonds
( 0.60 vs. 0.51 ). In addition, there were periods of several years when junk bonds were strongly correlated with stocks, such as the 1990s and early 2000s.

It is impossible to predict when junk bond returns will be more bond-like or more stock-like. During crises, moreover, just when stability is needed most, there is no guarantee that junk bonds will serve well. During the financial market collapse that unfolded between July 2007 and March 2009 U.S. stocks provided a total return of $-43.8 \%$ while high-yield bonds tumbled at the same time, returning -22.5\%. Investment grade corporate bond returns on the other hand were essentially flat, returning $-0.70 \%$.

Liquidity (the ability to convert an investment to cash relatively quickly at a reasonable price) is an important consideration when it comes to bonds, and the majority of high-yield bonds are considered illiquid. ${ }^{4}$ Illiquid bonds trade infrequently, so valuing and pricing these bonds is difficult, which results in higher trading costs compared with more liquid bonds. The hypothetical index returns displayed in Table 1 do not include the trading costs that would be incurred
when managing actual portfolios seeking to track these indexes. If these costs were taken into account the returns of high-yield bonds relative to stocks and investment grade bonds would be lower than those presented.

The exclusion of high yield bonds does not unduly restrict a bond investor's ability to construct a portfolio designed to accommodate his or her preferences. Sectors within the fixed income universe can, for example, be utilized in order to protect against unexpected price inflation or rising income taxes. Investors willing to accept higher risk in pursuit of higher expected returns can do so judiciously by including international bonds (on the back page of this publication we recommend an international bond fund provided by Vanguard), or by tilting their U.S. holdings toward lower credit quality corporate issuers within the high quality (investment grade) universe. For more information contact us at (413) 5281216 ext. 3138.


| Table 2: Correlation Matrix <br> 3 <br> $\mathbf{0 7 / 1 9 8 3 - 1 1 / 2 0 1 5}$ |  |  |  |
| :--- | :---: | :---: | :---: |
| Asset Class | U.S. High Yield <br> (Junk) Bonds | U.S. Stocks | U.S. Investment <br> Grade Bonds |
| U.S. High Yield (Junk) Bonds | 1.00 |  |  |
| U.S. Stocks | $\mathbf{0 . 6 0}$ | 1.00 |  |
| U.S. Investment Grade Bonds | $\mathbf{0 . 5 1}$ | $\mathbf{0 . 2 6}$ | 1.00 |
| Con |  |  |  |

Combining asset classes with low or negative correlation can enhance a portfolio's risk adjusted expected returns. The correlation coefficient ranges between -1 and +1 . -1 indicates perfect negative correlation, while +1 indicates perfect positive correlation.

[^0]4 For example, the Barclays Capital High Yield Very Liquid Index currently includes only 757 issues while the Barclays U.S. Corporate High Yield Index includes 2,182 issues.

## THE AIER/AIS COLLABORATIVE RESEARCH EFFORT

Readers often inquire regarding the nature of the research relationship between American Investment Services, Inc. (AIS), and our parent company, the American Institute for Economic Research (AIER). Here we attempt to explain that process, by way of example. Specifically, we describe the "feedback" loop between the two organizations with regard to client needs and objectives, economic theory, market dynamics and practical application.

## AIER and AIS

AIS is an SEC registered Investment Advisor with $\$ 686$ million in assets under management. The firm was incorporated in 1978 to serve the needs of individuals and institutions seeking investment advice and guidance. AIS operates as a for-profit entity, and is wholly owned by the American Institute for Economic Research (AIER), a nonprofit ( $501 \mathrm{c}(3)$ ) educational and research organization founded in 1933.

AIER and AIS serve distinct but complementary roles when it comes to investing. AIER disseminates useful information that helps people pursue their economic and financial goals. AIS "drills down" to provide more specific guidance. We do this in two ways. Through this monthly newsletter we provide information intended to address the needs of individual investors at large, while our advisory services provide discretionary asset management and financial advice tailored to each client's specific circumstances.

This structure provides mutual
benefits that ultimately serve to help fulfill AIER's charitable mission. AIER research helps AIS address its clients' needs, while AIER benefits financially as owner of a prosperous business. In addition, AIS manages approximately $\$ 150$ million on behalf of beneficiaries of AIER's pooled income funds and Charitable Remainder Unitrusts (CRUTs). Beneficiaries include income beneficiaries named by donors, and AIER itself as remainderman.

## The Process

Our unwavering commitment is to place our clients' interests before all others. It is this conviction more than anything else that has driven our growth to date. Our research process is central to fulfilling that
investing public. We then implement these solutions on behalf of our clients, and refine our recommendations continually, based on the latest research and input from our clients.

We continuously challenge our fundamental assumptions and the basic tenets of our investment approach (market efficiency, diversification, discipline, and cost minimization).

While our recommendations are informed by research from a variety of external industry and academic sources, our approach is consistent with the empirical methods employed by AIER.

This time-tested, objective process provides our clients and readers with the best tools available to meet their investment goals.
(continued next page) obligation.

Our methodology relies on a feedback loop that combines academic rigor with "real world" application. This interaction is depicted in the accompanying diagram, which highlights the combined strength of both organizations.

We begin with an ongoing assessment of our clients' needs. We then design solutions based on capital market data going back as far as 1926 and an objective review of investment vehicles available to the

OUTPUT: Publications, Portfolio Applications


Solutions Designed

## INPUT: Client Needs



Analysis, Research

## A Recent Example

To illustrate this process, we will review a recent case involving a client inquiry that led to a productive, collaborative research effort between AIER and AIS. In this case the client happened to be AIER itself. The inquiry pertained to the investment allocation of the Charitable Remainder Unitrust accounts (CRUTs) ${ }^{1}$ that AIS manages on behalf of AIER and the trusts' many beneficiaries (AIER serves as trustee and fiduciary for these accounts).

Specifically, the CRUT trustees expressed a desire to revisit those accounts which at the time were invested according to a conservative allocation, i.e. heavily weighted toward fixed income securities. The goal of the inquiry was to examine the possibility of increasing both the income stream payouts to income beneficiaries and the value of the assets which would eventually be severed and transferred to the remainderman, AIER. A successful review would require an examination of the philosophy behind the current allocation model and rigorous testing of
alternatives.
AIS began a methodical review of the asset allocation plan for all AIER CRUT accounts, with a focus on the philosophy and theories supporting that plan. We sought the support of an AIER Research Fellow who had recently completed an extensive body of related work addressing both spending ${ }^{2}$ and drawdown strategies in retirement. ${ }^{3}$ His extensive financial modeling experience proved invaluable.

The review continued with active communication and dialogue between AIS and AIER staff. Recent research, combined with changes in underlying assumptions regarding CRUT investments, prompted further review and analysis. The process culminated in an updated recommendation that would apply to all current and future AIER CRUT allocations.

These findings shifted the CRUT investment model from an age-based dynamic allocation to a payout-based static allocation model. The end result was an increase in the present value of the projected payout stream due to income beneficiaries as well as
the present value of the projected disbursement due to the remainderman.

This shift was made possible by the complementary strengths of AIER and AIS staff. The project combined theoretical considerations with practical application in a balanced manner, adjusting for the objectives, needs and risk tolerances of the funds' interested parties. These findings have since been formalized and submitted for publication in an independent third party journal.

This collaborative effort has significance beyond highlighting the nature of the relationship between AIS and AIER. While many charitable organizations benefit from CRUTs, there has been little research addressing optimal asset allocation within these trusts. The joint efforts put forth by AIER and AIS provide a useful, straightforward framework that can be utilized by donors, trustees and charitable organizations alike when creating a CRUT asset allocation plan. We hope to extend our findings to potential CRUT donors and charities in the course of our normal business practices.

[^1]'Tis the season for giving! If you know of a donor or a charity that might benefit from our CRUT research, please contact David St. Peter, AIS Director of Institutional Services (413) 645 3255, davids@americaninvestment.com.

## DON ${ }^{1}$ T PAY FOR PAST PERFORMANCE ${ }^{1}$

1. Coin A is flipped $\mathbf{1 0}$ times and comes up heads 3 times. Coin B is flipped $\mathbf{1 , 0 0 0}$ times and comes up heads 450 times.

## In your estimation, which of these coins is more likely to be "fair" (that is, the coin has an equal chance of coming up heads or tails on any given flip?)

I surveyed my co-workers with this question. Keep in mind that my co-workers have a higher knowledge of statistics than the general population. I got 33 responses, 24 of which were Coin B (73 percent). If you agree, then you're in agreement with some smart people. Unfortunately, you're also wrong. Don't worry, I would have been wrong too, and I love stats. I should mention that several
people that got the answer right admitted that they just assumed it was a trick question.

Most people think that coin B is more likely to be fair because it came up heads at a rate closer to 50 percent. Coin A came up heads "only" 30 percent of the time and is therefore more likely to be unfair.

The flaw in this logic is that it ignores the law of large numbers. It places too much emphasis on the small sample, and too little emphasis on the large sample. When assessing outcomes, people are susceptible to many biases. I want to focus here on the tendency to pay too much credence to short-run results. If you flip a fair coin 10 times, there is actually a 17 percent chance that it comes up heads 3 times or less. Basically, any
result is reasonable over the course of 10 coin flips. However, if you flip a fair coin 1,000 times, there is less than a 0.1 percent chance that it comes up heads 450 times or less. After 1,000 flips, we can be fairly confident that coin B has a true expected outcome somewhere between 42 and 48 percent heads, and therefore is not fair. In polling, this would be called a margin of error of 3 percent

As the number of coin flips increases, there is much smaller chance of outlying events. Coin B is therefore much more likely to be unfair. We have such limited data for coin A that we cannot say whether it's fair or not.

How is this relevant? Investors (and Morningstar, and Barron's, and Money Magazine, and...) give credence to an investment manager's three-year or

[^2]five-year track record. Naturally, certain managers will outperform over these short-run periods, even if just by chance. However, these trends should not be extrapolated to a long-run trend.

There has been considerable research that the number of mutual funds that outperform their benchmarks is actually the same or worse than chance would predict. One such study looked at 2,862 broad, actively managed domestic mutual funds that were operating for at least 12 months through 2010. The study looked at the funds that were in the top quarter of performance for five straight calendar years.

Let's look at what would happen by chance alone. At the end of 2010 there were 715 funds with performance in the top quarter ( 25 percent of 2,862 ). By chance alone, if 25 percent of those remained in the top quarter, there would be 179 funds that were in the top quarter
for 2010 and 2011. There would remain 45 funds in the top quarter for three years, and 11 funds in the top quarter for four straight years. Finally, by chance alone, we would expect somewhere between two and three funds to be in the top quarter of funds for five straight years:

$$
\begin{gathered}
(1 / 4) \times(1 / 4) \times(1 / 4) \times(1 / 4) \times(1 / 4) \\
\times 2862=2.79
\end{gathered}
$$

How many funds in the study actually had performance (relative to a benchmark) in the top quarter for five straight years? Exactly two, precisely what you'd expect by chance alone. How are those funds doing this year? Through mid-November, the Southern Sun Small Cap Fund (SSSFX) was down 12.7 percent versus 4.1 percent for its benchmark Russell 2000 Index. The Hodges Small Cap Fund (HDPSX) had performance nearly identical to its benchmark. It is likely that this study of

2,862 mutual funds will have zero funds in the top quarter of relative performance for six straight years.

Examples of this bias are everywhere. I got the flu shot last year and I still got the flu. Does that mean that I shouldn't get the flu shot this year because it doesn't work? Of course not. I can't extrapolate the probability of getting the flu from a single year, although lots of people do. How about the people with a grandparent that smoked a pack of cigarettes a day and lived until age 90 ? Cigarettes can't be that bad based on that sample of Grandpa Bob.

Investing for retirement should be a long-term process. It would be nice to extrapolate meaning from three- or fiveyear performance, but more often than not we may actually be chasing returns that are likely to regress to the mean in the future. As always, the lesson is that you shouldn't pay for past performance.

1. Luke Delorme, Research Fellow, AIER. Daily Economy, November 24, 2015.

## SECOND-HAND NEWS ${ }^{1}$

Why don't the media run more good news? One view is bad news sells. If people preferred good news, the media would supply it. But markets don't see news as necessarily good or bad, rather in terms of what is already built into prices.

One academic study appears to confirm the view that the apparent preponderance of bad news is as much due to demand as to supply, with participants more likely to select negative content regardless of their stated preferences for upbeat news. ${ }^{2}$
"This preference for negative and/ or strategic information may be subconscious," the authors conclude. "That is, we may find ourselves selecting negative and/or strategic stories even as we state that we would like other types of information."

So an innate and unrecognized demand among consumers for bad news tends to encourage attention-seeking commercial media to supply more of what the public appears to want, thus fueling a self-generating cycle.

Insofar as consumers of news are investors, though, the danger can come when the emotions generated by bad news prompt them to make changes to
their portfolios, unaware that the news is likely already built into market prices.

This is especially the case when the notions of "good or bad" are turned upside down on financial markets. For example, stocks and Treasuries rallied and the US dollar weakened in early October after a weaker-than-expected US jobs report. Some observers said the "bad news" on jobs was "good news" for interest rates. ${ }^{3}$

Conversely, a month later, stocks ended mixed, bonds weakened, and the US dollar rallied after a stronger-than-expected payrolls number. While an improving job market is good news, it was also seen by some as cementing the case for the Federal Reserve to begin raising interest rates. In both cases, the important thing for markets was not whether the report was good or bad but how it compared to the expectations already reflected in prices. As news is always breaking somewhere, expectations are always changing.

For the individual investor seeking to make portfolio decisions based on news, this presents a real challenge. First, to profit from news you need to be ahead of the market. Second, you have to anticipate how the market will react.

This does not sound like a particularly reliable investment strategy.

Luckily, there is another less scattergun approach. It involves working with the market and accepting that news is quickly built into prices. Those prices, which are forever changing, reflect the collective views of all market participants and reveal information about expected returns. So instead of trying to second-guess the market by predicting news, investors can use the information already reflected in prices to build diverse portfolios based on the dimensions that drive higher expected returns.

As citizens and media consumers we are all entitled to our individual opinions on whether news is good or bad. As investors, though, we can trust market prices to assimilate news instantaneously and work from there.

In a sense, the work and the worrying are already done for us. This leaves us to work alongside an advisor to build diverse portfolios designed around our own circumstances, risk appetites, and long-term goals.

There's no need to respond to sec-ond-hand news.

[^3]
## THE HIGH-YIELD DOW INVESTMENT STRATEGY

| Recommended HYD Portfolio |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| As of December 15, 2015 |  |  |  |  | -Pe | Portfolio-- |
|  | Rank | Yield (\%) | Price (\$) | Status | Value (\%) | No. Shares (\%) ${ }^{1}$ |
| Verizon | 1 | 4.96 | 45.55 | Holding** | 23.77 | 28.35 |
| Caterpillar | 2 | 4.61 | 66.75 | Buying | 8.96 | 7.30 |
| Chevron | 3 | 4.61 | 92.76 | Holding** | 20.80 | 12.19 |
| IBM | 4 | 3.77 | 137.79 | Buying | 3.06 | 1.21 |
| Exxon Mobil | 5 | 3.68 | 79.43 | Holding | 5.74 | 3.92 |
| Pfizer | 7 | 3.47 | 32.26 | Selling | 4.22 | 7.11 |
| McDonald's | 12 | 3.04 | 116.93 | Holding | 13.46 | 6.25 |
| General Electric | 13 | 3.03 | 30.32 | Holding | 8.24 | 14.77 |
| AT\&T | N/A | 5.67 | 33.81 | Selling | 11.75 | 18.90 |
| Cash (6-mo. T-Bill) | N/A | N/A | N/A |  | 0.00 | 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. |  |  |  |  |  |  |
| Performance was achieved by means of retroactive application of a model designed with the benefit of hindsight. |  |  |  |  |  |  |
| 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 November 30, 2015*. 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 | -0.06 | -1.49 | 15.73 | 9.35 | 10.68 | 15.05 | 17.42 |
| Russell 1000 Value Index | 0.38 | -1.11 | 13.47 | 6.45 | 8.78 | 12.15 | 14.65 |
| S\&P 500 Index | 0.30 | 2.75 | 14.40 | 7.48 | 8.38 | 11.78 | 15.09 |
| Dow Jones Industrial Average | 0.71 | 1.87 | 12.81 | 7.84 | 8.89 | 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. Performance was achieved by means of retroactive application of a model designed with the benefit of hindsight. 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 invest-ment-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.

RECENT MARKET STATISTICS

| Precious Metals \& Commodity Prices (\$) |  |  |  |
| :---: | :---: | :---: | :---: |
|  | 12/15/15 | Mo. Earlier | Yr. Earlier |
| Gold, London p.m. fixing (oz) | 1,061.50 | 1,081.50 | 1,209.25 |
| Silver, London Spot Price (oz) | 13.74 | 14.39 | 16.85 |
| Copper, COMEX Spot Price (100 | lb)205.10 | 217.00 | 289.80 |
| ude Oil, W. Texas Int. Spot (b | 37.35 | 40.74 | 55.91 |
| Bloomberg Commodity Spot In | ex 267.95 | 280.95 | 349.87 |
| Bloomberg Commodity Index | 77.58 | 82.43 | 109.78 |
| Reuters-Jefferies CRB Index | 174.23 | 184.77 | 241.05 |

## Interest Rates (\%)

| U.S. Treasury bills - | 91 day | 0.25 | 0.14 | 0.04 |
| :---: | :---: | :---: | :---: | :---: |
|  | 182 day | 0.54 | 0.31 | 0.11 |
|  | 52 week | 0.69 | 0.50 | 0.22 |
| U.S. Treasury bonds - | 10 year | 2.28 | 2.28 | 2.12 |
| Corporates: |  |  |  |  |
| High Quality - | 10+ year | 4.00 | 4.09 | 3.70 |
| Medium Quality - | 10+ year | 5.49 | 5.48 | 4.68 |
| Federal Reserve Discour | unt Rate | 0.75 | 0.75 | 0.75 |
| New York Prime Rate |  | 3.25 | 3.25 | 3.25 |
| Euro Rates | 3 month | -0.13 | -0.09 | 0.08 |
| Government bonds | 10 year | 0.64 | 0.56 | 0.62 |
| Swiss Rates - | 3 month | -0.77 | -0.79 | 0.01 |
| Government bonds | 10 year | -0.15 | -0.32 | 0.33 |

## Exchange Rates (\$)

British Pound
Canadian Dollar
Euro
Japanese Yen
South African Rand
Swiss Franc

| $\mathbf{1 . 5 0 4 4 0 0}$ | 1.520800 | 1.566300 |
| :--- | :--- | :--- |
| $\mathbf{0 . 7 2 8 4 4 0 0}$ | 0.750100 | 0.859900 |
| $\mathbf{1 . 0 9 1 1 0 0}$ | 1.072200 | 1.247000 |
| $\mathbf{0 . 0 0 8 2 2 0}$ | 0.008135 | 0.008493 |
| $\mathbf{0 . 0 6 6 7 0 0}$ | 0.069500 | 0.085100 |
| $\mathbf{1 . 0 0 8 0 0 0}$ | 0.991300 | 1.038200 |


| Securities Markets |  |  |  |
| :--- | ---: | ---: | ---: |
|  | $\mathbf{1 2 / 1 5 1 / 1 5}$ | Mo. Earlier | Yr. Earlier |
| S \& P 500 Stock Composite | $\mathbf{2 , 0 4 3 . 4 1}$ | $2,023.04$ | $1,989.63$ |
| Dow Jones Industrial Average | $\mathbf{1 7 , 5 2 4 . 9 1}$ | $17,245.24$ | $1,180.84$ |
| Barclays US Credit Index | $\mathbf{2 , 5 5 0 . 1 7}$ | $2,559.24$ | $2,566.03$ |
| Nasdaq Composite | $\mathbf{4 , 9 9 5 . 3 6}$ | $4,927.88$ | $4,605.16$ |
| Financial Times Gold Mines Index | $\mathbf{8 6 6 . 5 9}$ | 857.87 | $1,055.78$ |
| FT EMEA (African) Gold Mines | $\mathbf{1 , 0 1 9 . 4 7}$ | 970.12 | $1,158.34$ |
| FT Asia Pacific Gold Mines | $\mathbf{4 , 8 1 2 . 1 2}$ | $4,425.80$ | $4,236.29$ |
| FT Americas Gold Mines | $\mathbf{6 5 5 . 6 3}$ | 668.17 | 871.48 |
| Coin Prices (\$) |  |  |  |
|  |  |  |  |


|  | $\mathbf{1 2 / 1 5 / 1 5}$ | Mo. Earlier | Yr. Earlier | Prem (\%) |
| :--- | ---: | :---: | :---: | :---: |
| American Eagle (1.00) | $\mathbf{1 , 1 1 1 . 9 0}$ | $1,119.00$ | $1,234.93$ | 4.75 |
| Austrian 100-Corona (0.9803) | $\mathbf{1 , 0 5 6 . 3 8}$ | $1,063.34$ | $1,159.53$ | 1.52 |
| British Sovereign (0.2354) | $\mathbf{2 6 4 . 2 7}$ | 2655.94 | 290.20 | 5.76 |
| Canadian Maple Leaf (1.00) | $\mathbf{1 , 0 9 5 . 9 0}$ | $1,103.00$ | $1,217.00$ | 3.24 |
| Mexican 50-Peso (1.2057) | $\mathbf{1 , 2 8 9 . 1 1}$ | $1,297.66$ | $1,428.90$ | 0.72 |
| Mexican Ounce (1.00) | $\mathbf{1 , 0 9 5 . 9 0}$ | $1,103.00$ | $1,205.40$ | 3.24 |
| S. African Krugerrand (1.00) | $\mathbf{1 , 0 9 6 . 9 0}$ | $1,104.00$ | $1,219.28$ | 3.33 |
| U.S. Double Eagle-\$20 (0.9675) |  |  |  |  |
| St. Gaudens (MS-60) | $\mathbf{1 , 1 4 5 . 0 0}$ | $1,190.00$ | $1,265.00$ | 11.49 |
| Liberty (Type I-AU50) | $\mathbf{2 , 1 5 0 . 0 0}$ | $2,225.00$ | $2,225.00$ | 109.35 |
| Liberty (Type II-AU50) | $\mathbf{1 , 3 7 5 . 0 0}$ | $1,425.00$ | $1,450.00$ | 33.88 |
| Liberty (Type III-AU50) | $\mathbf{1 , 1 3 5 . 0 0}$ | $1,180.00$ | $1,245.00$ | 10.52 |
| U.S. Silver Coins (\$1,000 face | value,circulated) |  |  |  |
| 90\% Silver Circ. (715 oz.) | $\mathbf{1 1 , 3 6 5 . 0 0}$ | $11,619.00$ | $12,500.00$ | 15.68 |
| 40\% Silver Circ. (292 oz.) | $\mathbf{4 , 0 4 5 . 0 0}$ | $4,150.00$ | $4,675.00$ | 0.82 |
| Silver Dollars Circ. | $\mathbf{2 0 , 2 5 0 . 0 0}$ | $20,250.00$ | $17,750.00$ | 90.51 |

Note: Premium reflects percentage difference between coin price and value of metal in a coin, with gold at $\$ 1,081.50$ per ounce and silver at $\$ 14.39$ per ounce. The weight in troy ounces of the precious metal in coins is indicated in parentheses. Note: The Bloomberg Commodity Spot Index and the Bloomberg Commodity Index were previously the Dow Jones Spot Index and the Dow Jones-UBS Commodity Index, respectively, as of $7 / 1 / 14$. Data that was being retrieved from Dow Jones is now being retrieved from Bloomberg.

THE DOW JONES INDUSTRIALS RANKED BY YIELD*

|  | Ticker Symbol |  | Market Prices (\$) |  |  | 12-Month (\$) |  | Latest Dividend |  |  | Indicated |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Amount | Record | Payable | Annual | Yieldt |
|  |  |  | 12/15/15 | 11/13/15 | 12/15/14 |  |  | High | Low | (\$) | Date | Date D | Dividend | (\%) |
| Verizon | VZ |  | 45.55 | 44.23 | 45.42 | 50.86 | 38.06 | 0.565 | 1/8/2016 | 2/1/2016 | 2.260 | 4.96 |
| Caterpillar | CAT |  | 66.75 | 69.63 | 89.75 | 94.66 | 62.99 | 0.770 | 1/20/2016 | 2/20/2016 | 3.080 | 4.61 |
| Chevron | CVX |  | 92.76 | 88.68 | 100.86 | 114.45 | 69.58 | 1.070 | 11/18/2015 | 12/10/2015 | 54.280 | 4.61 |
| IBM | IBM |  | 137.79 | 131.75 | 153.06 | 176.30 | 131.65 L | 1.300 | 11/10/2015 | 12/10/2015 | 55.200 | 3.77 |
| Exxon Mobil | XOM |  | 79.43 | 78.10 | 86.90 | 95.18 | 66.55 | 0.730 | 11/12/2015 | 12/10/2015 | 52.920 | 3.68 |
| Merck | MRK | 1 | 52.90 | 53.03 | 56.95 | 63.62 | 45.69 | 0.460 | 12/15/2015 | 1/8/2016 | 1.840 | 3.48 |
| Pfizer | PFE |  | 32.26 | 33.27 | 30.86 | 36.46 | 28.47 | 0.300 | 2/5/2016 | 3/2/2016 | 1.120 | 3.47 |
| Procter and Gamble | PG |  | 79.68 | 73.96 | 89.20 | 93.89 | 65.02 | 0.663 | 10/23/2015 | 11/16/2015 | 52.652 | 3.33 |
| Wal-Mart Stores | WMT |  | 59.64 | 56.42 | 83.94 | 90.97 | 56.30 L | 0.490 | 12/4/2015 | 1/4/2016 | 1.960 | 3.29 |
| Cisco | CSCO |  | 26.85 | 26.21 | 26.68 | 30.31 | 23.03 | 0.210 | 1/6/2016 | 1/20/2016 | 0.840 | 3.13 |
| Coca-Cola | KO |  | 43.07 | 41.38 | 40.57 | 43.85 | 36.56 | 0.330 | 12/1/2015 | 12/15/2015 | 51.320 | 3.06 |
| McDonald's | MCD |  | 116.93 | 109.97 | 88.46 | 118.75 | 87.50 | 0.890 | 12/1/2015 | 12/15/2015 | 53.560 | 3.04 |
| General Electric | GE |  | 30.32 | 30.28 | 24.59 | 30.99 H | 19.37 | 0.230 | 12/21/2015 | 1/25/2016 | 0.920 | 3.03 |
| Boeing | BA | I | 146.53 | 142.59 | 122.08 | 158.83 | 115.14 | 1.090 | 2/12/2016 | 3/4/2016 | 4.360 | 2.98 |
| Johnson \& Johnson | JNJ |  | 104.13 | 99.88 | 103.96 | 107.39 | 81.79 | 0.750 | 11/24/2015 | 12/8/2015 | 3.000 | 2.88 |
| 3M Company | MMM |  | 148.13 | 155.65 | 156.85 | 170.50 | 134.00 | 1.025 | 11/20/2015 | 12/12/2015 | 54.100 | 2.77 |
| United Tech. | UTX |  | 93.26 | 96.48 | 111.91 | 124.45 | 85.50 | 0.640 | 11/13/2015 | 12/10/2015 | 52.560 | 2.75 |
| Intel Corp | INTC |  | 35.18 | 32.11 | 35.92 | 37.74 | 24.87 | 0.240 | 11/7/2015 | 12/1/2015 | 0.960 | 2.73 |
| J P Morgan | JPM |  | 66.10 | 65.56 | 59.16 | 70.61 | 50.07 | 0.440 | 1/6/2016 | 1/31/2016 | 1.760 | 2.66 |
| Microsoft Corp. | MSFT |  | 55.20 | 52.84 | 46.67 | 56.23 H | 39.72 | 0.360 | 2/18/2016 | 3/10/2016 | 1.440 | 2.61 |
| Dupont | DD |  | 66.50 | 67.05 | 65.80 | 76.61 | 47.11 | 0.380 | 11/13/2015 | 12/14/2015 | 51.520 | 2.29 |
| Travelers | TRV |  | 113.18 | 112.00 | 103.09 | 116.48 H | 95.21 | 0.610 | 12/10/2015 | 12/31/2015 | 52.440 | 2.16 |
| Apple | AAPL |  | 110.49 | 112.34 | 108.23 | 134.54 | 92.00 | 0.520 | 11/9/2015 | 11/12/2015 | 52.080 | 1.88 |
| Home Depot, Inc. | HD |  | 131.29 | 120.00 | 100.05 | 135.47 H | 92.17 | 0.590 | 12/3/2015 | 12/17/2015 | 52.360 | 1.80 |
| Unitedhealth Group | UNH |  | 117.61 | 111.41 | 98.27 | 126.21 | 95.00 | 0.500 | 12/4/2015 | 12/15/2015 | 52.000 | 1.70 |
| American Express | AXP |  | 70.15 | 71.20 | 90.04 | 94.89 | 67.80 L | 0.290 | 1/8/2016 | 2/10/2016 | 1.160 | 1.65 |
| Goldman Sachs | GS |  | 182.01 | 190.39 | 185.54 | 218.77 | 167.49 | 0.650 | 12/2/2015 | 12/30/2015 | 52.600 | 1.43 |
| Walt Disney | DIS | 1 | 112.16 | 114.84 | 90.90 | 122.08 | 90.00 | 0.710 | 12/14/2015 | 1/11/2016 | 1.420 | 1.27 |
| Nike | NKE | I | 128.61 | 121.86 | 95.43 | 135.30 H | 90.69 | 0.320 | 12/9/2015 | 1/4/2016 | 1.280 | 1.00 |
| Visa Inc. | V |  | 78.62 | 78.11 | 64.18 | 81.01 H | 60.00 | 0.140 | 11/13/2015 | 12/1/2015 | 0.560 | 0.71 |

[^4]|  | Descriptive Quarterly Statistics, as of 9/30/15 |  |  |  |  |  |  |  | Annualized Returns ${ }^{4}$ (\%), as of 11/30/15 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Security Avg. | Avg. Market Cap. / Avg. Maturity | No. of | Ratios |  |  |  | 12 Mo. Yield (\%) | Total |  |  | After Tax* |  |  |
|  | Symbol Av |  | Holdings | Expense ${ }^{3}$ (\%) | Sharpe | Turnover (\%) | $P / B$ |  | 1 yr . | 3 yr . | 5 yr . | 1 yr . | 3 yr . | 5 yr . |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vanguard Short-Term Bond Index | BSV ${ }^{1}$ / VBISX | 2.8 Yrs . | 2179 | 0.20 | 0.63 | 45 | - |  | 1.43 | 0.81 | 0.79 | 1.32 | 0.23 | 0.24 | 0.71 |
| iShares Barclays 1-3 Yr. Credit Bond | CSJ ${ }^{1}$ | 2.01 Yrs. | 935 | 0.20 | 1.40 | 17 | - | 1.09 | 0.60 | 0.93 | 1.44 | 0.12 | 0.46 | 0.90 |
| iShares Barclays 1-3 Yr. Treasury Bond | SHY ${ }^{1}$ | 1.85 Yrs. | 80 | 0.15 | 0.51 | 122 | - | 0.49 | 0.26 | 0.42 | 0.55 | 0.04 | 0.26 | 0.37 |
| Vanguard Limited-Term Tax-Exempt | VMLTX | 3.4 Yrs . | - | 0.20 | 0.74 | 15 | - | 1.52 | 1.06 | 1.05 | 1.69 | 1.06 | 1.05 | 1.69 |
| SPDR N.B. Short-Term Municipal Bond | SHM ${ }^{1}$ | 3.01 Yrs. | 570 | 0.20 | 0.41 | 20 | - | 0.92 | 0.78 | 0.89 | 1.45 | 0.44 | 0.77 | 1.36 |
| Inflation-Protected Fixed Income |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| iShares Barclays TIPS Bond | TIP ${ }^{1}$ | 8.50 Yrs. | 40 | 0.20 | -0.31 | 47 | - | 0.56 | -1.90 | -2.32 | 2.26 | -2.06 | -2.80 | 1.50 |
| Vanguard Inflation-Protected Securities | VIPSX | 8.6 Yrs. | - | 0.20 | -0.33 | 39 | - | 1.38 | -1.78 | -2.32 | 2.21 | -2.34 | -3.13 | 1.25 |
| International Fixed Income |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vanguard Total International Bond Index | x BNDX ${ }^{1 / V T I B X}$ | 9.2 Yrs. | 3924 | 0.23 | - | 16 | - | 1.49 | 2.21 | - | - | 1.54 | -- | -- |
| Real Estate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vanguard REIT Index | VNQ ${ }^{1}$ / VGSIX | 9.52 B | 148 | 0.26 | 0.56 | 8 | 2.21 | 4.12 | 2.37 | 11.50 | 12.26 | 0.89 | 10.17 | 11.08 |
| SPDR Dow Jones REIT | RWR ${ }^{1}$ | 14.69 B | 97 | 0.25 | 0.57 | 6 | 2.39 | 3.36 | 3.79 | 12.03 | 12.59 | 2.37 | 10.51 | 11.18 |
| Vanguard Global ex-US Real Estate | VNQI ${ }^{\text {/ }}$ VGXRX ${ }^{5}$ | 5.84 B | 629 | 0.37 | 0.40 | 8 | 1.03 | 3.93 | -4.33 | 2.90 | 5.62 | -6.10 | 1.26 | 4.28 |
| iShares International Property ETF | WPS ${ }^{1}$ | 6.38 B | 397 | 0.48 | 0.55 | 8 | 1.02 | 3.34 | -2.74 | 4.51 | 6.56 | -3.85 | 2.98 | 5.17 |
| SPDR Dow Jones Global Real Estate ETF | RWO ${ }^{1}$ | 10.92 B | 229 | 0.50 | 0.54 | 7 | 1.65 | 3.00 | 0.33 | 8.27 | 9.86 | -0.90 | 6.67 | 8.09 |
| U.S. Large Cap Value |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vanguard Value Index | VTV ${ }^{1}$ / VIVAX | 81.59 B | 318 | 0.23 | 1.39 | 6 | 1.98 | 2.67 | 0.31 | 15.23 | 13.47 | -0.25 | 14.63 | 12.95 |
| iShares Russell 1000 Value Index | $\mathrm{IWD}^{1}$ | 48.66 B | 689 | 0.20 | 1.35 | 13 | 1.65 | 2.54 | -1.24 | 14.45 | 13.23 | -1.78 | 13.88 | 12.75 |
| U.S. Mid Cap |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vanguard Mid-Cap ETF | VO | 10.79 B | 371 | 0.09 | 1.54 | 11 | 2.64 | 3.89 | 1.63 | 16.88 | 13.60 | 1.04 | 16.44 | 13.26 |
| iShares Russell Mid-Cap Index | IWR | 10.30 B | 829 | 0.20 | 1.50 | 10 | 2.36 | 1.60 | 0.33 | 15.89 | 13.37 | -0.05 | 15.45 | 13.00 |
| U.S. Small Cap Value |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| iShares Russell Microcap Index | $\mathrm{IWC}^{1}$ | 0.40 B | 1423 | 0.60 | 1.07 | 26 | 1.66 | 1.42 | 5.28 | 15.91 | 12.20 | 4.92 | 15.52 | 11.87 |
| Vanguard Small-Cap Value Index | VBR ${ }^{1}$ / VISVX | 3.03 B | 839 | 0.23 | 1.29 | 12 | 1.77 | 1.26 | 1.79 | 15.93 | 13.00 | 1.03 | 15.23 | 12.42 |
| U.S. Marketwide |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vanguard Total Stock Market Index | VTI / VTSMX | 46.80 B | 3799 | 0.17 | 1.42 | 3 | 2.62 | 2.07 | 2.36 | 15.81 | 13.98 | 1.91 | 15.31 | 13.57 |
| Fidelity Spartan Total Market Index | FSTMX ${ }^{2}$ | 46.63 B | - | 0.10 | 1.43 | 2 | 2.46 | 1.70 | 2.46 | 15.86 | 14.02 | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ | $\mathrm{n} / \mathrm{a}$ |
| Foreign- Developed Markets |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| iShares MSCI EAFE Growth Index | EFG ${ }^{1}$ | 29.04 B | 560 | 0.40 | 0.77 | 27 | 2.33 | 2.15 | 0.95 | 7.64 | 6.06 | 0.51 | 7.24 | 5.76 |
| iShares MSCI EAFE Value Index | EFV ${ }^{1}$ | 39.19 B | 492 | 0.40 | 0.62 | 29 | 1.08 | 4.03 | -7.34 | 4.91 | 4.39 | -8.08 | 4.15 | 3.81 |
| Vanguard FTSE Developed Market | VEA ${ }^{1}$ VTMGX ${ }^{6}$ | 32.02 B | 1396 | 0.09 | 0.73 | 4 | 1.55 | 3.05 | -2.13 | 6.72 | 5.63 | -2.86 | 5.97 | 5.02 |
| SPDR S\&P International Small Cap | GWX ${ }^{1}$ | 1.01 B | 2247 | 0.40 | 0.78 | 51 | 1.16 | 13.10 | 4.93 | 7.87 | 5.50 | 1.46 | 6.12 | 4.28 |
| Foreign- Emerging Markets |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vanguard FTSE Emerging Market Stock | VWO ${ }^{1}$ / VEIEX | 15.10 B | 1040 | 0.33 | -0.07 | 9 | 1.46 | 3.26 | -17.66 | -4.42 | -3.13 | -18.38 | -5.08 | -3.64 |
| Gold-Related Funds |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| iShares Gold Trust | $\mathrm{IAU}^{1}$ | 5.75 B | - | 0.25 | -0.78 | - | - | - | -10.48 | -15.17 | -5.41 | -10.48 | -15.17 | -5.41 |
| SPDR Gold Shares | GLD ${ }^{1}$ | 24.62 B | - | 0.40 | -0.79 | - | - | - | -10.58 | -15.29 | -5.53 | -10.58 | -15.29 | -5.53 |


[^0]:    1,2,3 U.S. stocks: CRSP 1-10 Deciles U.S. High Yield Bonds: Barclays U.S. Corporate High Yield Index U.S. Investment Grade Bonds: Barclays U.S. Credit Index Data: July 1983-November 2015. Historical performance results for investment indexes and/or categories generally 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. The results portrayed reflect the reinvestment of dividends, interest and capital gains.

[^1]:    1. For additional information regarding the nature and structure of CRUTs, visit the Planned Giving Design Center website's review of Charitable Remainder Trusts: http://www.pgdc.com/pgdc/charitable-remainder-trusts.
    Luke Delorme, AIER Research Fellow. A Blueprint for Retirement Spending, Journal of Financial Planning, September 2015
    Luke Delorme, AIER Research Fellow. From Savings to Income: Retirement Drawdown Strategies, AIER, July 2014
[^2]:    Asset classes and representative index chart on page 89: large cap value, Russell 1000 Value Index; small cap value, Russell 2000 Value Index; large cap growth, Russell 1000 Growth Index; Global REITs, S\&P Global REIT Index; foreign developed markets, MSCI EAFE Index; emerging markets, MSCI Emerging Markets Index

[^3]:    December 3, 2015 Jim Parker, Outside the Flags Vice President, Dimensional Fund Advisors, LP
    Marc Trussler and Stuart Soroka, "Consumer Demand for Cynical and Negative News Frames," International Journal of Press/Politics (2014). Mark Hulbert, "How Bad News on Wall Street Can Be Good News," WSJ MarketWatch (October 5, 2015).

[^4]:    * See the Recommended HYD Portfolio table on page 94 for current recommendations. + Based on indicated dividends and market price as of 12/15/15.

    Extra dividends are not included in annual yields. H New 52-week high. $L$ New 52 -week low. All data adjusted for splits and spin-offs. 12-month data begins $12 / 16 / 14$.
    I Dividend increased since 11/15/15 D Dividend decreased since 11/15/15

