4Q 2019 Outlook:

Charts That Got Us Thinking
Will consumers catch the global economy’s cold?
Nanette Abuhoff Jacobson is a managing director and asset allocation strategist at Wellington Management Company LLP and global investment strategist for Hartford Funds.

Nanette has selected the charts in this presentation to offer “behind the scenes” insight into what may be driving the markets.

With more than 25 years of experience in the capital markets, Nanette has held a variety of roles spanning the major asset classes. As global investment strategist, she analyzes and interprets markets and investment opportunities for Hartford Funds’ sales organization, the financial advisor community, and major broker-dealers and distributors. She also advises Wellington Management’s institutional clients, including pension funds, insurance companies, endowments and foundations, and central banks, consulting on strategic asset-allocation issues to develop multi-asset investment solutions.
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Key points

Little change in views from Q3: Nanette prefers to focus on the fundamentals, not near-term trade developments. Global growth is slowing, and investors should consider defensive positioning, including:

- Bonds over equities
- US credit: Investment Grade (IG), high yield (HY), and securitized
- US equities over international and emerging markets, and safety and quality over value

Upside risks should be considered: positioning, valuations, and potential for a trade deal argue for owning some upside optionality
Multi-asset views

<table>
<thead>
<tr>
<th>Asset class</th>
<th>View</th>
<th>Change from previous quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed market equities</td>
<td>Neutral</td>
<td>−</td>
</tr>
<tr>
<td>US</td>
<td>Moderately bullish</td>
<td>−</td>
</tr>
<tr>
<td>Europe</td>
<td>Neutral</td>
<td>−</td>
</tr>
<tr>
<td>Japan</td>
<td>Moderately bearish</td>
<td>−</td>
</tr>
<tr>
<td>Emerging market equities</td>
<td>Moderately bearish</td>
<td>−</td>
</tr>
<tr>
<td>Commodities</td>
<td>Neutral</td>
<td>−</td>
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<tr>
<td>10-year rates</td>
<td>Neutral</td>
<td>↑</td>
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<tr>
<td>US</td>
<td>Moderately bullish</td>
<td>−</td>
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<tr>
<td>Europe</td>
<td>Moderately bearish</td>
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<tr>
<td>Japan</td>
<td>Neutral</td>
<td>↑</td>
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<tr>
<td>Credit</td>
<td>Moderately bullish</td>
<td>−</td>
</tr>
<tr>
<td>Investment-grade credit</td>
<td>Moderately bullish</td>
<td>−</td>
</tr>
<tr>
<td>High yield</td>
<td>Moderately bullish</td>
<td>−</td>
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<tr>
<td>Bank loans</td>
<td>Neutral</td>
<td>−</td>
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<tr>
<td>Emerging market debt (EMD)</td>
<td>Neutral</td>
<td>−</td>
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<tr>
<td>Securitized assets</td>
<td>Moderately bullish</td>
<td>−</td>
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</table>

Nanette’s views are relatively consistent with last quarter. Growth is slowing, and investors should be positioned defensively.

As of September 2019 | Source: Wellington Management.
Nanette thinks fundamentals, policy, and valuations drive markets on a 6-12 month time period.

<table>
<thead>
<tr>
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<th>Fundamentals</th>
<th>Policy</th>
<th>Valuations</th>
<th>View</th>
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<tr>
<td><strong>Equities</strong></td>
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<td>Bullish</td>
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<td>Bullish</td>
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<tr>
<td>Europe</td>
<td>Bullish</td>
<td>Neutral</td>
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<td>Japan</td>
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<td>Emerging markets</td>
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<td><strong>10-year yields</strong></td>
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<td>US</td>
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<td>Europe</td>
<td>Bullish</td>
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<td>Neutral</td>
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<td><strong>Credit</strong></td>
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<td>IG</td>
<td>Bullish</td>
<td>Neutral</td>
<td>Bullish</td>
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<td>High yield</td>
<td>Bullish</td>
<td>Neutral</td>
<td>Bullish</td>
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<td>Bank loans</td>
<td>Bullish</td>
<td>Neutral</td>
<td>Bullish</td>
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<td>EMD</td>
<td>Bullish</td>
<td>Neutral</td>
<td>Bullish</td>
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<td>Securitized assets</td>
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<td>Neutral</td>
<td>Bullish</td>
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<td><strong>Commodities</strong></td>
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<tr>
<td>Commodities</td>
<td>Bullish</td>
<td>Neutral</td>
<td>Bullish</td>
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**Legend**
- **Bullish**
- **Moderately bullish**
- **Neutral**
- **Moderately bearish**
- **Bearish**

The Fed may struggle to deliver what markets expect

The market could be disappointed because it expects much more Federal Reserve (Fed) easing than the Fed actually plans to do.
Multi-asset views

It’s time to rotate into quality and safety-oriented factors

Factor families: Results across the cycle

Average monthly excess returns versus MSCI USA, February 2003 – October 2018 (%)

-1.0 -0.5 0.0 0.5 1.0 1.5

Risk-seeking  Mean-reversion  Trend-following  Risk-aversion

It’s time to rotate into quality and safety-oriented factors.

Factor families: Results across the cycle

Safe, high-quality companies have tended to outperform during the late and slowdown phases of the business cycle.

Each bar represents the average monthly excess return relative to the MSCI USA Index for factors within each family. Factor category definitions: Risk-seeking: Factors characterized by a wide range of expected outcomes (e.g., high EPS dispersion, high beta); Mean-reversion: Factors characterized by an expected convergence toward a mean value (e.g., low P/E ratio); Trend-following: Factors characterized by the expectation of a continuation of a trend (e.g., positive earnings revisions); Risk-aversion: Factors characterized by a narrow range of expected outcomes (e.g., low volatility)

Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment.

Sources: FactSet, FTSE, and Wellington Management

Please see representative index definitions on page 53.
Global growth is deteriorating

Global manufacturing purchasing managers’ index (PMI) and Gross Domestic Product (GDP)-weighted M1 money supply

Money supply is growing slowly, which suggests the global economy will continue to slow.

1Purchasing Managers Index (PMI) is an indicator of the economic health of the manufacturing sector. A reading above 50 signals economic expansion; below 50 signals contraction. 2GDP-weighted M1 money supply includes US, Europe, Japan, and China. Sources: Bloomberg, Markit, Wellington Management. Chart data: July 1997 – August 2019. X-axis scale range is January 1998 to February 2020 due to M1 being forwarded 6 months. M1 data is from July 1997 to August 2019 (i.e., first data point represents July 1997 and final data point represents August 2019). PMI data is from January 1998 – August 2019.
Consumer sentiment is measured by global consumer confidence, while manufacturing sentiment is measured by global industrial confidence. There’s currently a gap between the two, and we should be concerned that consumer confidence could slow.

Will consumers catch the global economy’s cold?
Consumer and business confidence have diverged

Trade uncertainty weighs on US businesses

Trade uncertainty has a weak, but positive, relationship with manufacturing PMI and could weigh it down going forward.

Sources: Baker, Bloom & Davis, Institute for Supply Management, Bloomberg

Chart data: December 1995 – August 2019
US consumers are optimistic

Despite trade issues and manufacturing weakness, US consumers are still doing relatively well.
Trade war could disrupt supply chains and incur costs

<table>
<thead>
<tr>
<th>Top consumer goods</th>
<th>Value (US$ bil)</th>
<th>% imported from China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile phones</td>
<td>43</td>
<td>82</td>
</tr>
<tr>
<td>Laptops</td>
<td>37</td>
<td>94</td>
</tr>
<tr>
<td>Apparel</td>
<td>27</td>
<td>35</td>
</tr>
<tr>
<td>Shoes</td>
<td>14</td>
<td>71</td>
</tr>
<tr>
<td>Children’s vehicles (tricycles, scooters)</td>
<td>12</td>
<td>85</td>
</tr>
<tr>
<td>Video game consoles</td>
<td>5</td>
<td>98</td>
</tr>
</tbody>
</table>

Tranche 4 tariffs are largely consumer goods. If tariffs are implemented the US consumer could suffer, and the US could face a recession.
US equities have tended to outperform in choppy markets

Percent of quarters the US equity market outperformed and underperformed other markets when those markets experienced negative quarterly returns

<table>
<thead>
<tr>
<th></th>
<th>US market outperformed</th>
<th>US market underperformed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>84</td>
<td>16</td>
</tr>
<tr>
<td>Europe</td>
<td>82</td>
<td>18</td>
</tr>
<tr>
<td>Emerging markets</td>
<td>77</td>
<td>23</td>
</tr>
</tbody>
</table>

Time period: 1999 – 2018. Number of observations: Japan 37 negative quarters, Europe 34 negative quarters, Emerging markets 31 negative quarters.

For example, during that time period the Japan market experienced 37 quarters of negative performance out of which the US market outperformed 31 quarters (84%) and underperformed 6 quarters (16%).

Past performance does not guarantee future results.

Sources: Bloomberg, Wellington Management

Around 80% of the time when Japan, Europe, or Emerging Markets (EM) have had negative quarterly returns, the US has outperformed. Therefore, the US appears to be a relatively safe equity market.
Regional Equities

Can European consumers endure the slowdown?

European commission consumer confidence and Eurozone manufacturing PMI

European consumers are doing well while manufacturers are in recession.

Sources: Bloomberg, Wellington Management

Chart data: November 2000 – September 2019
Regional Equities

European consumers still in decent shape

Eurozone gross disposable income of households and unemployment rate

European consumers are buoyed by strong income and low unemployment.

Sources: Bloomberg, Wellington Management  |  Chart data: March 2000 – June 2019
Regional Equities

Japan depends on the yen

Japan’s economy underperforms the global economy when the Yen appreciates.

Past performance does not guarantee future results.
Sources: Haver, Markit, Deutsche Bank, Wellington Management  
Chart data: November 2006 – August 2019. X-axis scale range is May 2007 to February 2020 due to trade-weighted yen being forwarded 6 months. Trade-weighted yen data is from November 2006 to August 2019 (i.e., first data point represents November 2006 and final data point represents August 2019). Japan-global PMI data is from May 2007 – August 2019.
EM equities tend to underperform later in the economic cycle
Late stage and bust

EM equities tend to perform poorly during late stage and bust economic cycles.

Past performance does not guarantee future results.

Investors cannot directly invest in an index.

Sources: Haver, Datastream, Wellington Management.

Please see representative index definitions on page 53.
Valuations relatively attractive outside US

20-year percentile rankings

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Europe</th>
<th>Japan</th>
<th>EM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trailing price-to-book (%)(^1)</td>
<td>86</td>
<td>38</td>
<td>21</td>
<td>28</td>
</tr>
<tr>
<td>Shiller P/E ratio (%)(^2)</td>
<td>81</td>
<td>55</td>
<td>6</td>
<td>NA</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Trailing price-to-book (%)</td>
<td>88</td>
<td>83</td>
<td>79</td>
</tr>
<tr>
<td>Shiller P/E ratio (%)</td>
<td>93</td>
<td>100</td>
<td>NA</td>
</tr>
</tbody>
</table>

US equity valuations are expensive, while overseas valuations are relatively cheap. However, equity valuations aren’t particularly good predictors of returns over the next 6-12 months, so they’re a relatively small piece of Nanette’s outlook process.

\(^1\)Price-to-book is the ratio of a stock’s price to its book value per share.

\(^2\)Shiller P/E ratio is a valuation measure, generally applied to broad equity indices, that uses real per-share earnings over a 10-year period.

As of 31 August 2019 | Sources: MSCI, Datastream, Wellington Management
Dependency ratio is calculated as the number of people younger than 15 years old, older than 64 years old, divided by the number of people aged 15 – 64 years old. **Past performance does not guarantee future results.** Actual results may differ significantly from projections. **Source:** Haver Analytics  
**Chart data:** actual: 1989 – 2017, forecasted: 2018 – 2050

The dependency ratio is the number of people who **are not** working age divided by the number of people who **are** working age. A higher ratio is bad because it depresses economic growth. In this framework, EM should grow faster than developed markets (DM).
Fixed income is playing diversification role

The correlation between stocks and bonds should fall as the Fed begins easing policy.

Shaded areas represent US tightening cycles. Past performance does not guarantee future results. Diversification does not ensure a profit or protect against a loss in a declining market. | Source: Datastream

Chart data: 30 June 1988 – 9 September 2019 | Please see representative index definitions on page 53.
**Credit spreads are around fair value**

Option-adjusted spreads,¹ 23 September 2019

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>Percentile since inception (%)</th>
<th>Median</th>
<th>Low</th>
<th>Inception date</th>
</tr>
</thead>
<tbody>
<tr>
<td>US corporates</td>
<td>114</td>
<td>51</td>
<td>112</td>
<td>51</td>
<td>30 June 1989</td>
</tr>
<tr>
<td>US high yield</td>
<td>359</td>
<td>32</td>
<td>444</td>
<td>233</td>
<td>31 January 1994</td>
</tr>
<tr>
<td>Emerging market debt</td>
<td>411</td>
<td>57</td>
<td>388</td>
<td>149</td>
<td>31 December 1994</td>
</tr>
</tbody>
</table>

¹Option-adjusted spread (OAS) is a measurement tool for evaluating yield differences between similar-maturity fixed-income products with different embedded options. Sources: Barclays, Wellington Management

When spreads are trading at about fair value, they look cheaper than US equity valuations.
Defaults are low because rates are low, and the US economy is doing well enough to allow companies to service their debt.

EM debt: Wide divergence between high and low quality

Spreads in the JP Morgan Emerging Market Bonds Index Plus (EMBI+) are wide because high-yielders have seen a widening in spreads, while investment-grade bond issuers in EMBI+ have seen spreads compress.

*EM debt spreads look attractive at the index level (light blue line), but when we look at just the investment grade components of EMBI+, spreads are much less attractive. EMBI+ is the JP Morgan Emerging Market Bonds Index Plus. Past performance does not guarantee future results. Source: Bloomberg. Chart data: 13 January 2011 – 9 September 2019. Please see representative index definitions on page 53.
Spreads indicate positive excess returns

High yield

Average forward three-year US high yield excess return by option-adjusted spread quintiles, 1987 – August 2019 (%)

Current high-yield bond spreads are consistent with positive excess forward returns.

Past performance does not guarantee future results.
Sources: Barclays, Wellington Management
Spreads indicate positive excess returns
Corporates

Average forward three-year US Baa corporate excess return by option-adjusted spread quintiles, 1987 – May 2019 (%)

Past performance does not guarantee future results.
Sources: Barclays, Wellington Management
BBBs remain well-positioned to service higher debt levels

BBB corporate bonds in the Bloomberg Barclays US Corporate Bond Index

Weighted Free Cash Flow (FCF) % of debt (LHS)

Weighted total debt/EBITDA (RHS)

BBB-rated companies generate ample free cash flow to service their debt.

Past performance does not guarantee future results. | Source: Capital IQ | Chart data: March 1995 – June 2019 | Please see representative index definitions on page 53.
Securitized assets offer attractive yields

Securitized credit looks attractive based on its spreads.

A Collateralized Loan Obligation (CLO) is a security backed by a pool of debt. Commercial Mortgage-Backed Securities (CMBS) are a type of mortgage-backed security that's secured by a loan on a commercial property.
The Trump administration and politicians on both sides of the aisle favor being tough on China because Americans perceive that China is treating the US unfairly.

Americans are skeptical about China’s trade policies

Replies of “Don’t know/no opinion” have been excluded. As a result, “Fair” and “Unfair” responses will not sum to 100%.


Poll conducted June 18 – 24, 2018. Question: For the following countries, please tell me if you believe each has a fair trade policy or an unfair trade policy with the United States.
President Trump is vulnerable on the economy

President Trump’s approval rating* on the economy
Approval – disapproval (%)

Trump may feel pressure to end the trade war because it’s hurting the economy, which could hamper his prospects for reelection.

*Percentage approval rating differential between approval/disapproval as measured via Real Clear Politics survey amalgamations.
Source: Real Clear Politics  |  Chart data: January 2017 – September 2019
Will swing states turn on President Trump?
2016 US election and Trump’s current net approval ratings

The colors represent the 2016 presidential election outcome. The numbers show President Trump’s current net approval ratings. Many states that voted for Trump in 2016 and many swing states have net negative current approval ratings. Thus, Trump may feel pressure to boost the economy by ending the trade war.

Shading represents the net percentage of votes won in each state in the 2016 presidential election. The numbers represent net approval ratings for President Trump as of August 2019. Thicker outlines indicate swing states. According to Politico, these states were “selected after weighing a variety of factors including polling, demography, voter registration, early ad spending, campaign staffing, and recent and past electoral history.” Most of the states have been characterized as swing states in most of the recent elections, with the exception of Michigan and Pennsylvania, neither of which had voted red since 1988. The reason for categorizing them as swing states was largely Trump-specific. Sources: Net approval: https://morningconsult.com/tracking-trump-2/; election results: https://www.nytimes.com/elections/2016/results/president
One risk to Nanette’s relatively defensive view is that growth picks up and value stocks start to outperform. Value could be primed for recovery given how poorly it has done relative to growth since the global financial crisis.
Shift towards populism in US and around the world

**Policy proposals by likely Democratic candidates in the 2020 US Presidential election**

- 70% marginal tax rate on wealthy
- 3% tax on net wealth > US$1bn, 2% > US$50mm
- Accountable Capitalism Act
- Green New Deal
- Jobs guarantee and free college tuition
- Medicare for all

**Fiscal implication**

- Higher taxes
- More regulation
- Increased entitlement spending

The market may need to contend with a democrat in office, which could entail tax hikes, more regulation, and increased entitlement spending.

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**Annual Federal debt held by public as a percentage of GDP (%)**

Sources: Haver Analytics, Wellington Management

Chart data: 1968 – 2018
Consider diversifying exposure across economic environments

Relative performance by economic environment

Diversifying portfolio exposure across all four possible economic environments can be a prudent approach.


The example presented is for illustrative purposes and reflects the current opinions of Wellington Management Global Multi-Asset Strategies team as of the date appearing in this material only. This is based on historical assumptions and is not intended to be a prediction of how any asset class will perform in the future.

<table>
<thead>
<tr>
<th>Economic Environment</th>
<th>Nominal government bonds</th>
<th>TIPS</th>
<th>Bank loans</th>
<th>Emerging market Debt</th>
<th>REITs</th>
<th>Emerging market currencies/Inflation-linked bonds</th>
<th>Industrial metals commodities</th>
<th>Natural resource equities</th>
<th>Energy &amp; Agriculture commodities</th>
<th>Gold/precious metals commodities</th>
<th>Absolute return/active risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rising</td>
<td>Public equities</td>
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<tr>
<td>Growth</td>
<td>Private equities</td>
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<td>Falling</td>
<td>Long/short equity hedge funds</td>
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<td>Falling</td>
<td>Corporate spreads</td>
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<td>Falling</td>
<td>High yield</td>
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<td>Falling</td>
<td>EMD: Emerging Markets Debt</td>
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<td>Falling</td>
<td>REITs: Real Estate Investment Trusts</td>
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<tr>
<td>Falling</td>
<td>ILBs: Inflation-Linked Bonds</td>
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<td>Falling</td>
<td>MBS: Mortgage-Backed Securities</td>
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<tr>
<td>Falling</td>
<td>TIPS: Treasury-Inflation Protected Securities</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The example presented is for illustrative purposes and reflects the current opinions of Wellington Management Global Multi-Asset Strategies team as of the date appearing in this material only. This is based on historical assumptions and is not intended to be a prediction of how any asset class will perform in the future.
### Implementation Ideas

#### Economic Views

**US Equities**
- Consider more defensive sectors as global growth slows

#### Hartford Funds Ideas

**Allocation to Defensive Sectors** such as Communication Services, Consumer Staples, Healthcare, and Utilities (as of 9/30/19):
- Hartford Core Equity Fund (HGIIX): 40%
- Hartford Equity Income Fund (HQIIX): 41%
- Hartford Dividend and Growth Fund (HDGIX): 36%

#### Fixed Income

**Fixed Income**
- Consider credit over equities
- Within credit, favor investment-grade bonds and high-yield bonds
- Securitized credit looks attractive based on spread levels and attractive yields

**Hartford Total Return Bond Fund (ITBIX)**
Credit Exposure:¹ % Allocated to bonds rated A or higher (as of 9/30/19): 94%

**Hartford High Yield Bond Fund (HAHIX)**
Seek to provide high current income and long-term total return

**Hartford Schroders Securitized Income Fund (HITIX)**
A low duration, multi-sector fixed-income fund that seeks diversification beyond corporate credit through a wide variety of securitized credit instruments

---

¹ Credit exposure is the credit ratings for the underlying securities of the Fund as provided by Standard and Poor’s (S&P), Moody’s Investors Service, or Fitch and typically range from AAA/Aaa (highest) to C/D (lowest). If S&P, Moody’s, and Fitch assign different ratings, the median rating is used. If only two agencies assign ratings, the lower rating is used. Securities that are not rated by any of the three agencies are listed as “Not Rated.” Ratings do not apply to the Fund itself or to Fund shares. Ratings may change.

The Hartford Funds Ideas discussed here reflect the views of Hartford Funds as of September 30, 2019 and are subject to change without notice. These views are not intended to be a prediction of future events or a guarantee of future results. This material should not be considered investment advice or a recommendation to buy, hold, or sell any security.
# Appendix: More Charts That Got Us Thinking

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Buying stocks when fear runs high has historically led to long-term gains

VIX¹ levels of 40 or higher indicate extremely high levels of fear

<table>
<thead>
<tr>
<th>Date</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>S&amp;P 500 Percentage Daily Loss*</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/31/1998</td>
<td>39.82</td>
<td>7.14</td>
<td>2.48</td>
<td>-6.80%</td>
<td>Russia's economic crisis</td>
</tr>
<tr>
<td>9/17/2001</td>
<td>-14.64</td>
<td>4.55</td>
<td>6.76</td>
<td>-4.92%</td>
<td>Trading resumes for the first time following the September 11 terrorist attacks</td>
</tr>
<tr>
<td>7/22/2002</td>
<td>22.73</td>
<td>16.64</td>
<td>15.43</td>
<td>-3.29%</td>
<td>Accounting scandals highlighted by bankruptcies at Enron and WorldCom</td>
</tr>
<tr>
<td>5/7/2010</td>
<td>23.05</td>
<td>15.98</td>
<td>15.88</td>
<td>-1.53%</td>
<td>“Flash Crash” causes stocks to decline rapidly with no apparent reason. Dow Jones Industrial Average² falls 999 points intraday before recovering.</td>
</tr>
<tr>
<td>8/8/2011</td>
<td>28.09</td>
<td>22.59</td>
<td>16.76</td>
<td>-6.66%</td>
<td>European debt crisis and S&amp;P downgrades US government debt from AAA to AA+ for the first time in history</td>
</tr>
<tr>
<td>8/24/2015</td>
<td>17.48</td>
<td>20.16</td>
<td>?</td>
<td>-3.94%</td>
<td>China currency devaluation sparks selloff</td>
</tr>
</tbody>
</table>

*This column shows the S&P 500 Index’s one-day loss on the date shown in column 1. Past performance does not guarantee future results. Assumes reinvestment of capital gains and dividends and no taxes. ¹ The Chicago Board Options Exchange (CBOE) Volatility Index (VIX) is a key measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices. VIX, commonly referred to as the “Fear Index,” is the ticker symbol for the CBOE’s Volatility Index and measures the market’s expectation of 30-day volatility. VIX levels below 20 reflect complacency, while levels of 40 or higher reflect extremely high levels of volatility. ² Data Sources: Morningstar and Hartford Funds, 1/19
Intra-year dips in the S&P 500 Index happen frequently.

Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment. Assumes reinvestment of capital gains and dividends and no taxes. Drawdown refers to the largest market drop from peak to trough during the calendar year. Data Sources: Morningstar and Hartford Funds, 1/19
Intra-year dips in EM equities happen frequently

Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment. Assumes reinvestment of capital gains and dividends and no taxes. Drawdown refers to the largest market drop from peak to trough during the calendar year. | Data Sources: Morningstar and Hartford Funds, 1/19
Are you an opportunistic or apprehensive investor?

Hypothetical growth of $10,000 invested in S&P 500 Index (12/31/77-12/31/18)

- Opportunistic: Added $2,000 every time the market dropped 8% or more in a month
- Apprehensive: Moved $2,000 into 30-Day U.S. T-Bills every time the market dropped 8% in a month
- Buy and Hold: Held steady through the volatility

1 T-Bills are guaranteed as to the timely payment of principal and interest by the US Government and generally have lower risk-and-return than bonds and equity. Equity investments are subject to market volatility and have greater risk than T-Bills and other cash investments. Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment. Assumes reinvestment of capital gains and dividends and no taxes. Data Sources: Thomson Reuters and Hartford Funds, 1/19.
The cyclical nature of active and passive investing

Active and Passive Outperformance Trends Are Cyclical
12/31/1985 to 12/31/2018 Monthly Rolling 3-Year Periods

While passive large-blend funds have performed well in recent years, a longer-term view shows that active and passive large-blend funds have routinely traded periods of outperformance.

Performance for the Morningstar Large Blend Category is net of fees. “Actively Managed Large Blend” is made up of funds from the Morningstar Large Blend category that are not index or enhanced index funds. “Passively Managed Large Blend” is represented by the Morningstar S&P 500 Tracking Category.

Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment. Data Sources: Morningstar and Hartford Funds, 1/19
Are value stocks poised to outperform growth stocks after a long period of underperformance?

While growth stocks and value stocks historically alternate periods of outperformance, growth stocks have generally outperformed value stocks since February 2009.

Growth stocks are represented by S&P 500 Growth Index. Value stocks are represented by S&P 500 Value Index. The chart shows the values of the S&P 500 Value Index’s returns minus the S&P 500 Growth Index’s returns. When the line is above 0, value stocks outperformed growth stocks. When it is below 0, growth stocks outperformed value stocks. *Past performance does not guarantee future results.* Indices are unmanaged and not available for direct investment. For illustrative purposes only. | Data Sources: Morningstar and Hartford Funds, 10/19 | Please see representative index definitions on page 53.
Are international stocks poised to outperform US stocks after a long period of underperformance?

The average performance cycle for US equities versus international equities has historically lasted 7.5 years. US equities have outperformed international equities over the past 8.6 years, indicating the cycle may be getting ready to turn.

The chart shows the values of the S&P 500 Index's returns minus the MSCI World ex USA Index's returns. When the line is above 0, domestic stocks outperformed international stocks. When it is below 0, international stocks outperformed domestic stocks. | Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment. For illustrative purposes only. | Data Sources: Morningstar and Hartford Funds, 10/19
Dividend-paying stocks have significantly outperformed dividend non-payers in the long run

Returns for S&P 500 Index Stocks by Dividend Policy: Growth of $100 (1/1/72 - 12/31/18)

Companies that grew or initiated a dividend have historically enjoyed a significant performance advantage.

Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment. For illustrative purposes only. The graph is not representative of any Hartford Fund’s performance, and does not take into account fees and charges associated with actual investments.

Dividend Growers & Initiators - Grew or initiated a dividend in the past 12 months | Dividend Payers - Paid a dividend in the past 12 months
No Change - Maintained their dividend level in the past 12 months | Dividend Non-Payers - Did not pay a dividend in the past 12 months
Dividend Cutters & Eliminators - Lowered or eliminated their dividends in the past 12 months | Source: Ned Davis Research, 1/19.
Timing the market is impossible

Penalties of Missing the Market’s Best Months
S&P 500 Index Average Annual Total Returns: 1989–2018

If you missed some of the market’s best months over the past 30 years, you would have been better off buying lower-risk Treasury Bills.

Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment. For illustrative purposes only. Data Sources: Ned Davis Research and Hartford Funds, 1/19.
According to a study by Dalbar, the average investor has underperformed both equity and bond indices by buying and selling at the wrong time.

Performance data for indices represents a lump sum investment in January 1999 to December 2018 with no withdrawals. US Equities are represented by the S&P 500 Index. US Bonds are represented by the Bloomberg Barclays US Aggregate Bond Index. Indices are unmanaged, unavailable for direct investment, and do not reflect fees, expenses, or sales charges. Unmanaged index returns do not reflect any fees, expenses, or sales charges. Index performance is not indicative of any Hartford fund.

See Index Definitions for descriptions.

**Average equity investor and average bond investor** performance results are calculated using data supplied by the Investment Company Institute. Investor returns are represented by the change in total mutual fund assets after excluding sales, redemptions and exchanges. This method of calculation captures realized and unrealized capital gains, dividends, interest, trading costs, sales charges, fees, expenses and any other costs. After calculating investor returns in dollar terms, two percentages are calculated for the period examined: Total investor return rate and annualized investor return rate. Total investor return rate is determined by calculating the investor return dollars as a percentage of the net of the sales, redemptions, and exchanges for each period.

**Dalbar’s Quantitative Analysis of Investor Behavior Methodology** - Dalbar’s Quantitative Analysis of Investor Behavior uses data from the Investment Company Institute (ICI), Standard & Poor’s and Barclays Index Products to compare mutual fund investor returns to an appropriate set of benchmarks. Covering the period from January 1, 1999, to December 31, 2018, the study utilizes mutual fund sales, redemptions and exchanges each month as the measure of investor behavior. These behaviors reflect the “average investor.” Based on this behavior, the analysis calculates the “average investor return” for various periods. These results are then compared to the returns of respective indices.
Are you prepared for duration risk?

In June of 2017, the duration of the Bloomberg Barclays US Aggregate Bond Index exceeded six years for the first time since 1978. Fixed-income investors should consider evaluating the duration risk in their portfolios.

Duration is a measure of price sensitivity to interest rate changes. | Data Sources: Barclays Live, Bloomberg, and Hartford Funds, 10/19. For illustrative purposes only.
Hypothetical impact of rising and falling rates on fixed income

Price impact of a 1% rise/fall in interest rates

- 2-Year U.S. Treasury: -1.9% gain, 2.0% loss
- 5-Year U.S. Treasury: -4.7% gain, 4.9% loss
- Treasury Inflation Protected Securities: -4.6% gain, 5.1% loss
- 10-Year U.S. Treasury: -8.6% gain, 9.5% loss
- 30-Year U.S. Treasury: -19.2% gain, 25.3% loss
- Floating Rate Notes: -0.1% gain, 0.1% loss
- Convertibles: -2.3% gain, 2.8% loss
- Asset-backed Securities: -2.2% gain, 3.3% loss
- Commercial Mortgage-backed Securities: -5.1% gain, 5.5% loss
- High Yield: -3.3% gain, 2.8% loss
- Mortgage-backed Securities: -3.5% gain, 1.9% loss
- Broad Market: -5.6% gain, 5.9% loss
- Municipals: -5.2% gain, 5.5% loss
- Investment Grade Corporates: -7.2% gain, 8.4% loss

Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment. For illustrative purposes only. Fixed-income sectors shown above are provided by Barclays and are represented by the following Bloomberg Barclays indices – Broad Market: US Aggregate Bond; Mortgage-backed securities: US MBS Fixed-Rate; Investment Grade Corporates: US Corporate Bond; Municipals: Municipal Bond 10-year; High Yield: US High Yield Corporate Bond; Floating Rate Notes: US FRN (BBB); Convertibles: US Convertible Liquid Bond; Asset-backed securities: Fixed-Rate Asset-Backed Securities (ABS); CMBS: US CMBS. Please see representative index definitions on page 53. Change in price is calculated as New Price = (Price + (Price * -Duration* Change in Interest Rates))+(0.5 * Price * Convexity * (Change in Interest Rates)^2) | Data Sources: Bloomberg and Hartford Funds, 10/19.
### Tax-equivalent yields

(as of 9/30/2019)

<table>
<thead>
<tr>
<th>Maturity</th>
<th>Treasury</th>
<th>Agency</th>
<th>Investment-Grade Corporate</th>
<th>Municipal Bonds</th>
<th>Tax-equivalent yield&lt;sup&gt;1&lt;/sup&gt; at top tax brackets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>37%</td>
</tr>
<tr>
<td>1-Yr</td>
<td>1.83</td>
<td>1.82</td>
<td>2.19</td>
<td>1.31</td>
<td>2.08</td>
</tr>
<tr>
<td>2-Yr</td>
<td>1.65</td>
<td>1.68</td>
<td>2.19</td>
<td>1.32</td>
<td>2.09</td>
</tr>
<tr>
<td>3-Yr</td>
<td>1.58</td>
<td>1.62</td>
<td>2.22</td>
<td>1.32</td>
<td>2.10</td>
</tr>
<tr>
<td>4-Yr</td>
<td>1.56</td>
<td>1.60</td>
<td>2.29</td>
<td>1.34</td>
<td>2.13</td>
</tr>
<tr>
<td>5-Yr</td>
<td>1.57</td>
<td>1.63</td>
<td>2.39</td>
<td>1.36</td>
<td>2.16</td>
</tr>
<tr>
<td>7-Yr</td>
<td>1.62</td>
<td>1.73</td>
<td>2.61</td>
<td>1.42</td>
<td>2.25</td>
</tr>
<tr>
<td>10-Yr</td>
<td>1.68</td>
<td>1.90</td>
<td>2.89</td>
<td>1.58</td>
<td>2.51</td>
</tr>
<tr>
<td>15-Yr</td>
<td>1.78</td>
<td>2.09</td>
<td>3.22</td>
<td>1.88</td>
<td>2.98</td>
</tr>
<tr>
<td>20-Yr</td>
<td>1.94</td>
<td>2.33</td>
<td>3.49</td>
<td>2.07</td>
<td>3.28</td>
</tr>
<tr>
<td>30-Yr</td>
<td>2.11</td>
<td>2.47</td>
<td>3.47</td>
<td>2.27</td>
<td>3.60</td>
</tr>
</tbody>
</table>

<sup>1</sup> The tax-equivalent yield is the pretax yield that a taxable bond needs to possess for its yield to be equal to that of a tax-free municipal bond. | Data Sources: Bloomberg and Hartford Funds, 10/19.
Municipal bond yields look attractive

Municipal bonds look attractive relative to other high-quality sectors before factoring in the tax advantages.

Fixed-Income Yields as of 9/30/19 by Maturity

- Tax-equivalent Municipal Bond Yields
- Investment-Grade Corporate Bond Yields
- Municipal Bond Yields
- US Treasury Yields

Municipal bonds may also help diversify a taxable portfolio.

*Correlation is a statistical measure of how two investments move in relation to each other. A correlation of 1.0 indicates the investments have historically moved in the same direction; a correlation of -1.0 means the investments have historically moved in opposite directions; and a correlation of 0 indicates no historical relationship in the movement of the investments. Past performance does not guarantee future results. Indices are unmanaged and not available for direct investment. 1 The municipal curve is populated with US municipal general obligations with an average rating of AA+ for Moody's and S&P. 2 The Bloomberg Valuation Service (BVAL) curve is populated with US dollar-denominated senior-unsecured fixed-rate bonds issued by domestic companies with a BBG rating of investment grade. 3 The US Treasury curve is comprised of US dollar-denominated US Treasury active securities. 4 Municipal Bonds are represented by the Bloomberg Barclays Municipal Bond Index, which covers the US dollar-denominated long term tax exempt bond market. 5 The Bloomberg Barclays US Aggregate Bond Index is an index comprised of government securities, mortgage-backed securities, asset-backed securities, and corporate securities to simulate the universe of bonds in the market. 6 The Bloomberg Barclays US Treasury Index is an unmanaged index of public obligations of the US Treasury with a remaining maturity of one year or more. 7 Bloomberg Barclays Global Aggregate ex-USD Bond Index provides a broad-based measure of the international investment-grade bond market hedged against the US dollar. Data Sources: Bloomberg and Hartford Funds, 10/19.
Multi-sector credit shows characteristics of a defensive-equity alternative

Multi-sector credit (MSC) hypothetical blend\(^1\) versus equity calendar year returns: Upside participation with better downside mitigation (%)

Summary Statistics 2000 - 2018

<table>
<thead>
<tr>
<th></th>
<th>Annualized return</th>
<th>Annualized volatility</th>
<th>Sharpe Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSC Blend</td>
<td>6.7</td>
<td>7.4</td>
<td>0.6</td>
</tr>
<tr>
<td>MSCI World</td>
<td>5.8</td>
<td>15.3</td>
<td>0.2</td>
</tr>
</tbody>
</table>

\(^1\)MSC hypothetical blend is comprised of 1/3 BofA Merrill Lynch Global High Yield Constrained, 1/3 Credit Suisse Leveraged Loan Index, and 1/3 JPMorgan Emerging Markets Bond Index Plus. Past and hypothetical performance do not guarantee future results and an investment can lose value. The MSC hypothetical blend and its performance are hypothetical and not representative of an actual fund. Simulated performance is developed with the benefit of hindsight (i.e., actual knowledge of market conditions and the results of similar strategies) and thus has inherent limitations. Results are presented gross of fees; if fees were applied, returns would have been lower. | Sharpe Ratio is a measure of the excess fund return per unit of risk, as measured by standard deviation. | Sources: Bank of America Merrill Lynch, Credit Suisse, JPMorgan, MSCI, and Wellington Management | Please see representative index definitions on page 53.
### Mutual Fund Flows

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Domestic Equity</td>
<td>7,825</td>
<td>(151)</td>
<td>(251)</td>
<td>(236)</td>
<td>(235)</td>
<td>(170)</td>
<td>(60)</td>
<td>18</td>
<td>(159)</td>
<td>(134)</td>
<td>(81)</td>
<td>(27)</td>
<td>(150)</td>
<td>(69)</td>
<td>(4)</td>
<td>17</td>
<td>100</td>
<td>120</td>
<td>(25)</td>
<td>57</td>
</tr>
<tr>
<td>World Equity</td>
<td>2,665</td>
<td>(28)</td>
<td>(6)</td>
<td>77</td>
<td>(23)</td>
<td>94</td>
<td>85</td>
<td>141</td>
<td>7</td>
<td>4</td>
<td>57</td>
<td>30</td>
<td>(67)</td>
<td>142</td>
<td>151</td>
<td>107</td>
<td>72</td>
<td>24</td>
<td>(4)</td>
<td>(23)</td>
</tr>
<tr>
<td>Taxable Bond</td>
<td>3,782</td>
<td>124</td>
<td>(2)</td>
<td>233</td>
<td>84</td>
<td>(40)</td>
<td>16</td>
<td>(13)</td>
<td>256</td>
<td>130</td>
<td>221</td>
<td>301</td>
<td>23</td>
<td>100</td>
<td>45</td>
<td>21</td>
<td>0</td>
<td>40</td>
<td>126</td>
<td>78</td>
</tr>
<tr>
<td>Tax-exempt Bond</td>
<td>786</td>
<td>64</td>
<td>4</td>
<td>26</td>
<td>23</td>
<td>15</td>
<td>28</td>
<td>(58)</td>
<td>50</td>
<td>(12)</td>
<td>12</td>
<td>70</td>
<td>8</td>
<td>11</td>
<td>15</td>
<td>5</td>
<td>(15)</td>
<td>(7)</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Hybrid</td>
<td>1,506</td>
<td>(35)</td>
<td>(91)</td>
<td>(28)</td>
<td>(42)</td>
<td>(19)</td>
<td>30</td>
<td>75</td>
<td>46</td>
<td>40</td>
<td>36</td>
<td>20</td>
<td>(26)</td>
<td>40</td>
<td>20</td>
<td>43</td>
<td>53</td>
<td>39</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Tax-Exempt Money Market</td>
<td>135</td>
<td>(11)</td>
<td>13</td>
<td>0</td>
<td>(116)</td>
<td>(6)</td>
<td>(10)</td>
<td>(17)</td>
<td>(4)</td>
<td>(39)</td>
<td>(69)</td>
<td>(96)</td>
<td>13</td>
<td>84</td>
<td>25</td>
<td>21</td>
<td>19</td>
<td>10</td>
<td>16</td>
<td>21</td>
</tr>
</tbody>
</table>

### Cumulative flows into global stock & bond funds

- **Billions, USD (excludes ETFs)**

- **August '19:** $1.7 trillion into bond funds since '07
- **August '19:** $1.2 trillion out of stock funds since '07

### Cumulative flows into US equity funds

- **Billions, USD (excludes ETFs)**

- **August '19:** $518 billion into US equity funds by institutional investors since '07
- **August '19:** $2.2 trillion out of US equity funds by retail investors since '07

---

**TOP:** Data includes flows through 8/19 and excludes ETFs. **BOTTOM:** Data includes flows through 8/19 and excludes ETFs. |
ICI data subject to periodic revisions. World equity flows are inclusive of emerging market, global equity and regional equity flows. |
Hybrid flows include asset allocation, balanced fund, flexible portfolio and mixed income flows. |
Data Sources: Investment Company Institute and Hartford Funds, 10/19.
Index Definitions:

Bloomberg Barclays Municipal Bond 10-Year Index is a sub-index of the Barclays Municipal Bond Index. It is a rules-based market value-weighted index of bonds with maturities of 10 years engineered for the tax-exempt bond market.

Bloomberg Barclays US Aggregate Bond Index is composed of securities from the Barclays Government/Credit Bond Index, Mortgage-Backed Securities Index, Asset-Backed Securities Index, and Commercial Mortgage-Backed Securities Index.

Bloomberg Barclays US CMBS Index measures the market of conduit and fusion Commercial Mortgage-Backed Securities deals with a minimum current deal size of $300 million.

Bloomberg Barclays US Convertible Liquid Bond Index tracks US convertible securities, such as convertible bonds.

Bloomberg Barclays US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market.

Bloomberg Barclays US Fixed-Rate Asset-Backed Securities (ABS) Index covers fixed-rate ABS with the following collateral types: credit cards, autos, home equity loans and stranded-cost utility (rate reduction bonds).

Bloomberg Barclays US FRN (BBB) is a subset of the US Floating-Rate Note (FRN) Index, which measures the performance of USD-denominated, investment-grade, floating-rate notes across corporate and government-related sector.

Bloomberg Barclays US High Yield Corporate Bond Index is an unmanaged broad-based market-value weighted index that tracks the total return performance of non-investment grade, fixed-rate publicly placed, dollar-denominated and nonconvertible debt registered with the Securities and Exchange Commission.

Bloomberg Barclays US Long Treasury Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index.

Bloomberg Barclays US MBS Fixed-Rate Index measures the performance of investment grade fixed-rate mortgage-backed pass-through securities of Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).


ICE BofAML US Treasury 7 – 10 Year Index tracks the performance of US dollar-denominated below-investment-grade rated corporate debt publicly issued in the US domestic market.

J.P. Morgan Emerging Markets Bond Index Plus is a market capitalization-weighted index based on bonds in emerging markets.

MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. The MSCI Emerging Markets Index consists of 21 emerging market country indices.

MSCI USA Index is designed to measure the performance of the large and mid cap segments of the US market. With 627 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the US.

Russell 1000 Growth Index tracks the performance of large- and mid-capitalization U.S. equities that exhibit growth characteristics.

Russell 1000 Value Index tracks the performance of large- and mid-capitalization U.S. equities that exhibit value characteristics.

S&P 500 Index is a market capitalization-weighted price index composed of 500 widely held common stocks.
Important Risks: Investing involves risk, including the possible loss of principal. • Foreign investments may be more volatile and less liquid than U.S. investments and are subject to the risk of currency fluctuations and adverse political and economic developments. These risks may be greater for investments in emerging markets. • Fixed income security risks include credit, liquidity, call, duration, and interest-rate risk. • Investments in high-yield (“junk”) bonds involve greater risk of price volatility, illiquidity, and default than higher-rated debt securities. • Municipal securities may be adversely impacted by state/local, political, economic, or market conditions. Investors may be subject to the federal Alternative Minimum Tax as well as state and local income taxes. Capital gains, if any, are taxable. • Bank loans can be difficult to value and highly illiquid; they are also subject to nonpayment, collateral, bankruptcy, default, extension, prepayment and insolvency risks. • U.S. Treasury securities are backed by the full faith and credit of the U.S. government as to the timely payment of principal and interest. • Commodities may be more volatile than investments in traditional securities. • Diversification does not ensure a profit or protect against a loss in a declining market.

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