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Improving diversification with convertible bonds

Convertible securities offer hybrid features of current yield and total return potential in a diverse universe of businesses, from micro to large caps, and across value, core, and growth.

Historically, convertible securities have provided attractive risk-adjusted returns and an element of diversification from traditional stocks and bonds.

Following a long equity bull market from 2009 to 2020, convertibles may help offset downside risk from an equity allocation while also diversifying a fixed income allocation.

Recently, we have found institutional investors increasingly interested in a new or larger allocation to convertible securities. We believe an allocation to convertibles offers many benefits, including an asymmetric return profile and less interest-rate risk relative to other fixed income strategies. They can also add portfolio diversification in terms of sector, style, and market capitalization. Historically, these securities have a record of providing attractive risk-adjusted returns.

In 2020, convertibles demonstrated downside protection relative to equities during the pandemic-related market volatility, along with positive upside tracking during the recovery. The convertibles market is also in robust shape. New issuance has risen by just under 100% year over year, with more new names and first-time issuers entering the market.

In early 2021, many equity indexes are near record levels on the heels of double-digit annual returns. Investors may be considering options to reduce equity risk.

We provide this paper to help investors understand the features of the convertibles asset class and why it might be an attractive allocation to enhance diversification.

Fundamental properties

Convertible securities are hybrid instruments: They are typically issued as bonds, mandatories, or preferred stock while offering investors exposure to the underlying equity of the security. This hybrid nature affords investors a unique opportunity. First, convertible investors benefit from both the income and mitigation of downside risk offered by the convertible's fixed income and structural characteristics. This benefit eludes investors in common stock. At the same time, convertible investors can profit from the potential price appreciation of the issuer's underlying common stock. This benefit eludes investors who own typical corporate bonds.

Not all convertibles function in the same manner. Convertible bonds, which represent ~80% of the market, more closely mirror traditional bonds, offering income via coupon payments (which are contractual obligations of the issuer), along with a stated maturity date on which the issuer is obligated to repay the principal amount. This bond-like characteristic of the instrument provides the investor with the potential to mitigate downside risk. In addition, there is also an embedded call option on the underlying stock, through which an investor is able to participate in equity upside. These characteristics have helped convertibles perform competitively over time with more commonly owned asset classes (Figure 1).

Another kind of convertible — mandatory convertibles — typically offers a higher yield than both convertible bonds and preferreds. This higher yield principally compensates

FIGURE 1

Convertibles have historically performed well versus other asset classes over time

(Calendar-year total returns ranked from best to worst for various U.S. asset classes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
HIGHEST RETURN	US Govt 9.02%	GL HY 18.29%	US SC EQ 38.82%	US LC EQ 13.69%	US LC EQ 1.38%	US SC EQ 21.31%	GL EQ 22.40%	US Govt 0.88%	US LC EQ 31.49%	US Conv 46.22%
	US IG 8.15%	US SC EQ 16.35%	US LC EQ 32.39%	US Conv 9.44%	US Govt 0.86%	GL HY 15.69%	US LC EQ 21.83%	US Conv 0.15%	GL EQ 27.67%	US SC EQ 19.96%
	US AGG 7.84%	US LC EQ 16.00%	GL EQ 26.68%	US IG 7.46%	US AGG 0.55%	US LC EQ 11.96%	US SC EQ 14.65%	US AGG 0.01%	US SC EQ 25.52%	US LC EQ 18.40%
	GL AGG 5.64%	GL EQ 15.83%	US Conv 24.92%	US AGG 5.97%	US IG -0.68%	US Conv 10.43%	US Conv 13.70%	GL AGG -1.20%	US Conv 23.15%	GL EQ 15.90%
	GL HY 3.16%	US Conv 14.96%	GL HY 7.27%	GL EQ 4.94%	GL EQ -0.87%	GL EQ 7.51%	GL HY 7.82%	GL HY -1.98%	US IG 14.54%	US IG 9.89%
	US LC EQ 2.11%	US IG 9.82%	US IG -1.53%	US Govt 4.92%	US Conv -2.99%	US IG 6.11%	GL AGG 7.40%	US IG -2.51%	GL HY 14.40%	GL AGG 9.20%
	US SC EQ -4.18%	GL AGG 4.32%	US AGG -2.02%	US SC EQ 4.89%	GL HY -3.07%	US AGG 2.65%	US IG 6.42%	US LC EQ -4.38%	US AGG 8.72%	US Govt 7.94%
	US Conv -5.18%	US AGG 4.22%	GL AGG -2.60%	GL HY 3.00%	GL AGG -3.15%	GL AGG 2.09%	US AGG 3.54%	GL EQ -8.71%	GL AGG 6.84%	US AGG 7.51%
LOWEST RETURN	GL EQ -5.54%	US Govt 2.02%	US Govt -2.60%	GL AGG 0.59%	US SC EQ -4.41%	US Govt 1.05%	US Govt 2.30%	US SC EQ -11.01%	US Govt 6.83%	GL HY 6.27%

- **U.S. convertibles (US Conv)** are represented by the BofA Merrill Lynch U.S. Convertibles Index
- **Global equities (GL EQ)** are represented by the MSCI World
- **Global aggregate (GL AGG)** is represented by the Bloomberg Barclays Global Aggregate Bond Index
- **Global high yield (GL HY)** is represented by the BofA Merrill Lynch Global High Yield IG Country Constrained Index
- **U.S. aggregate (US AGG)** is represented by Bloomberg Barclays U.S. Aggregate Bond Index
- **U.S. goverment bonds (US Govt)** are represented by the Bloomberg Barclays U.S. Government Index
- **U.S. IG bonds (US IG)** are represented by the Bloomberg Barclays U.S. Corporate Investment Grade Index
- **U.S. large cap equities (US LC EQ)** are represented by the S&P 500 Index
- **U.S. small cap equities (US SC EQ)** are represented by the Russell 2000 Index

Data as of 12/31/20.

Sources: ICE BofA, Bloomberg Index Services Limited, Putnam, as of 12/31/19.

Diversification does not assure a profit or protect against loss. It is possible to lose money in a diversified portfolio. Past performance is not a guarantee of future results. Indexes are unmanaged and do not incur expenses. You cannot invest directly in an index.

for the added wrinkle of investors receiving stock with no option to be paid cash if they hold these instruments until maturity. As a result, this structure tends to carry more equity sensitivity than straight convertible bonds, although it still has the potential to mitigate downside risk. With the enhanced yield and higher equity sensitivity, this is a popular instrument for cross-over buyers, including high-yield and equity-income accounts.

Convertible preferred stocks offer income in the form of fixed dividend payments. These instruments are typically subordinate in the issuer's capital structure to traditional debt, and sometimes have no maturity; risk therefore, they generally provide less mitigation to downside than do convertible bonds. However, convertible preferred stocks generally provide higher dividend payments than convertible bonds. This characteristic serves to compensate for the lower level of risk mitigation. Convertible preferred stocks also contain a similar embedded call option on the underlying stock, and therefore participate in equity upside, often to a greater degree than convertible bonds.

All three types of these hybrid instruments have come to represent an increasingly popular method of financing, allowing the issuing companies to raise capital at relatively low cost.

Today's convertibles market

The convertibles market provides access to capital for a wide variety of companies. Convertibles have traditionally been beneficial to small and midsize companies whose low (or no) credit ratings or small market cap may constrain their ability to access the straight equity or debt markets at levels attractive to them.

The market also has become increasingly attractive to investment-grade companies given the relatively low cost of capital associated with issuing convertibles and the diversification of funding sources that convertibles provide. From a capitalization perspective, there has been great interest in recent years from small- and mid-cap companies, but we have also seen a number of high-profile large-cap companies access the convertibles market as well (Figure 2).

The use of proceeds from new issuance has also been fairly varied. With the relatively low-interest-rate environment of the past several years, we've seen companies raise funds for refinancing purposes and more recently, for merger-and-acquisition activity, as well as share buyback activity to support stock prices. Increased issuance has created more diverse investment opportunities, which has benefited the broader convertibles market.

FIGURE 2

Convertibles are a diverse market

Characteristics of ICE BofA U.S. Convertible Index

Total market size	$348.1B
Average market yield	1.72%
Average conversion premium	21.70%
Large cap ($30B+)	36.78%
Mid cap ($6–$30B)	38.31%
Small cap ($0–$6B)	24.91%

Source: ICE BofA, as of 12/31/20. Past performance is not a guarantee of future results.

Distinctive opportunities

The inefficiencies in the convertibles asset class provide a myriad of investment opportunities. Included in this opportunity set are situations in which some investors periodically overreact to negative fundamental developments and market dislocations, selling convertible positions prematurely. This kind of selling exerts even greater downward pressure on prices, creating value opportunities for investors with a more long-term, fundamental approach to the market.

"Balanced" convertibles currently represent a uniquely attractive subset of the convertible securities market, as they are neither too equity-sensitive nor too bond-like (for bond-like qualities, see "busted convertibles" in the sidebar on page 4). Typically, these securities trade within a range of 40%– 80% delta (see delta in the sidebar) to the underlying equity and are priced around par value. We believe this subset can achieve an equilibrium of upside equity tracking potential, downside risk mitigation, as well as an attractive current yield.

Currently, after the rapid recovery in equity valuations following the pandemic-induced downturn of 2020's first quarter, the delta of convertible securities is elevated. When this happens, high-delta securities have tended to trade almost 1:1 with their underlying equity. However, we believe balanced convertibles can provide investors a way

Important terms for convertibles

Fallen angels: Convertible bonds that were once rated investment grade but that have since been downgraded to a rating below BBB.

Rescue financing : Convertible debt issued to aid financially distressed companies.

Mandatories: Convertibles that do not offer cash at maturity. Instead, owners receive common stock on the maturity date.

Busted convertibles: Convertibles whose underlying stock is trading well below the conversion price on the embedded call option (also referred to as being deeply "out of the money"). These securities become much less sensitive to moves in the underlying stock price, responding instead to changes in the company's credit quality.

Delta: Delta estimates how the change in the price of an asset can change the price of a related security or derivative.

to capture the upside of an equity rally on a risk-adjusted basis, while being able to cushion the impact when their underlying equities lose value.

The U.S. convertibles market at the start of 2021

The size of the U.S. convertibles market expanded to $348B as of December 31, 2020. This marks a 63% increase since the end of 2019. The new issue market has reached its highest level in 13 years. This surge has lifted the volume to almost double that of the annual average in the post 2008–09 financial crisis period.

In periods of market stress as we have seen in 2020, the convertibles market offers a way for companies to return to capital markets. When markets experience dislocation, including a drop in prices and disruption in the usual financing mechanisms, liquidity-challenged companies have historically turned to the convertibles market. We saw this following the sell-off in February and March of 2020. Unique opportunities emerged within the new issue market, including much broader sector representation as well as attractive terms, in our opinion. For example, many cyclical-oriented companies participated, along with more typical technology and health care names.

Many convertible-issuing companies have also returned to the market and have floated new issues at par. In some instances, these issuers have outstanding convertible paper whose prices could be well above $200, in our view. The new issues give investors an opportunity to trade out of highly appreciated convertible paper and to replace it with balanced new issues of the same company.

Historically, we've seen that this provision of capital to companies through the convertible issuance in periods of maximum market stress has often rewarded convertible investors with attractive returns.

Correlation versus key asset classes

Given current relatively high equity valuations, convertibles offer an opportunity to maintain equity-like exposure (all-cap, all-style asset class) with some mitigation of downside risk. Furthermore, convertibles have demonstrated a very low correlation relative to traditional fixed income, including Treasurys, strategies aligned with the U.S. bond aggregate, or investment-grade corporate credit (Figure 3). This could make convertibles an attractive complement in traditional fixed income portfolios.

Potential long-term advantages for investors

We believe convertible securities offer five main advantages to investors:

1. Diversification Convertibles offer diversification along the lines of industry, style, and market capitalization. The breadth of the convertibles market provides investors with an opportunity to participate in a wider variety of sectors that span the entire capitalization spectrum through both growth and value stocks.

Also, convertibles can help to diversify an equity portfolio through their performance characteristics. In a falling stock market, the debt portion of the convertible typically cushions the effects of a market decline, often allowing convertibles the potential to outperform equities. In a rising stock market, convertibles may also provide the opportunity for capital growth. It is important to point out that although convertible investors do not typically participate in 100% of the movements in the underlying stock and past performance is not indicative of future results, historically they have generally participated in a greater proportion of upward movements than downward movements (absent meaningful credit deterioration) because of the mitigation of downside risk provided by the instrument's debt characteristics (Figure 4).

FIGURE 3

Convertibles can complement traditional fixed income and stock allocations

(10-year correlations between asset classes)

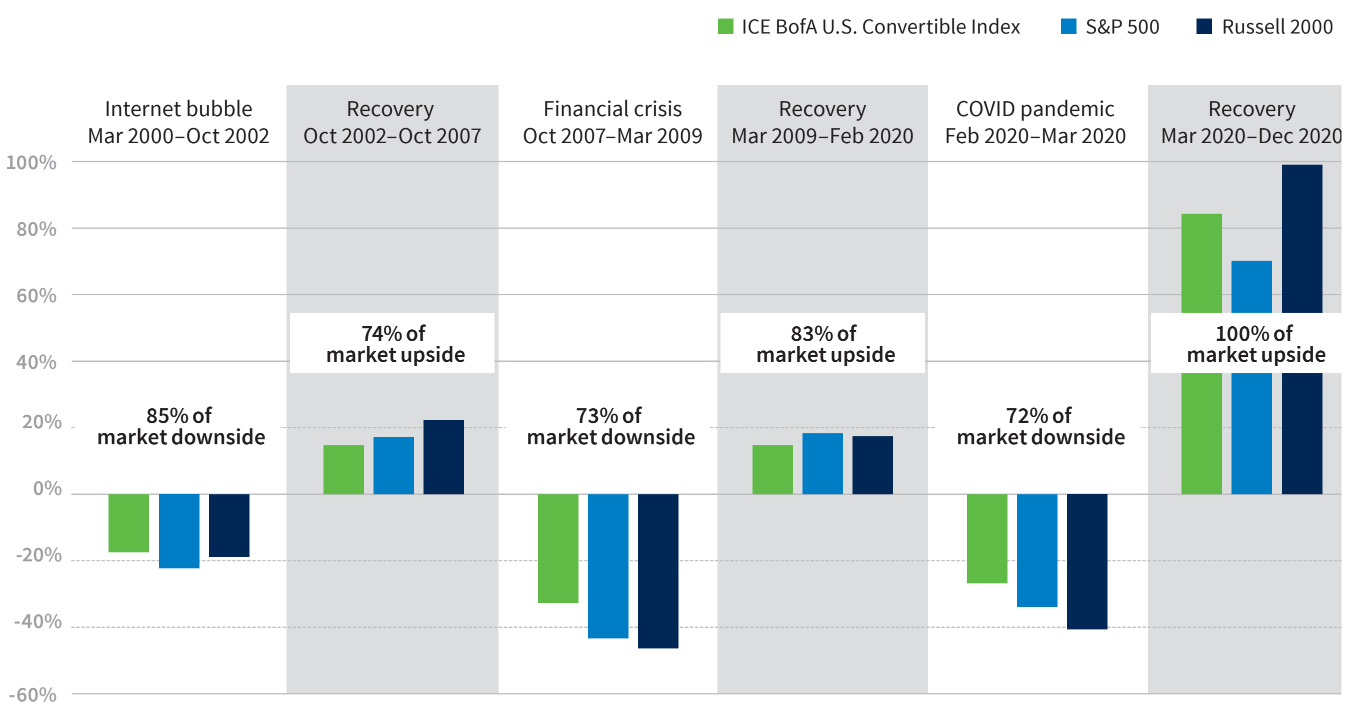
	U.S. government	U.S. aggregate	Investment grade	High yield	Convertibles	S&P 500	Russell 2000
U.S. government							
U.S. aggregate	0.88	—					
Investment grade	0.44	0.81	—				
High yield	-0.25	0.19	0.65	—			
Convertibles	**-0.32**	**0.06**	**0.47**	0.82	—		
S&P 500	-0.41	-0.06	0.36	0.77	0.90	—	
Russell 2000	-0.46	-0.13	0.31	0.75	0.90	0.90	—

Putnam, as of 12/31/20. U.S. government represents BBG Barclays U.S. Government; U.S. aggregate represents Bloomberg Barclays U.S. Aggregate Index; investment grade represents BBG Barclays U.S. Corporate Investment Grade; high yield represents JPMorgan Developed High Yield Index; and convertibles represent ICE BofA U.S. Convertibles Index. Indexes are unmanaged and do not incur expenses. You cannot invest directly in an index. Past performance is no guarantee of future results. Diversification does not assure a profit or protect against loss. It is possible to lose money in a diversified portfolio.

FIGURE 4

Historically, convertibles had attractive up and down market capture ratios

(Upside/downside capture ratios of portfolios in different scenarios)



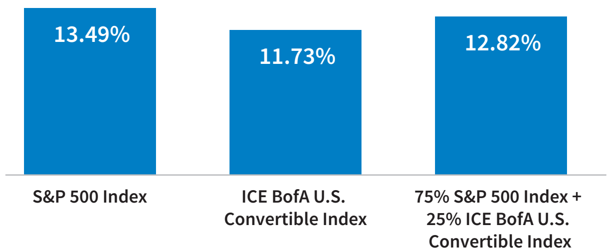
Source: Putnam, as of 12/31/20. All returns are annualized. Market upside/downside reflects the performance of the portfolio versus the average return of the S&P 500 and Russell 2000 Index. Upside/downside capture ratios are calculated using daily gross returns of a U.S. convertible securities representative account for the past seven time periods versus the ICE BofA U.S. Convertible, S&P 500, and Russell 2000 indexes. Past performance is not a guarantee of future results. Indexes are unmanaged and do not incur expenses. You cannot invest directly in an index.

According to our research, adding convertible securities to an all-equity portfolio reduced portfolio standard deviation over the past 10 years (Figure 5).

FIGURE 5

Adding convertibles has lowered volatility

(Standard deviation, 12/10–12/20)



Source: Putnam research, 2020. Index performance is not indicative of Putnam performance. Past performance is not indicative of future results. You cannot invest in an index.

2. Yield potential Compared with traditional equity securities, convertibles have provided the opportunity for higher yield potential (Figure 6). Also, unlike equity dividends, the convertible coupon (or dividend) is contractually guaranteed, providing investors with a more secure income stream.

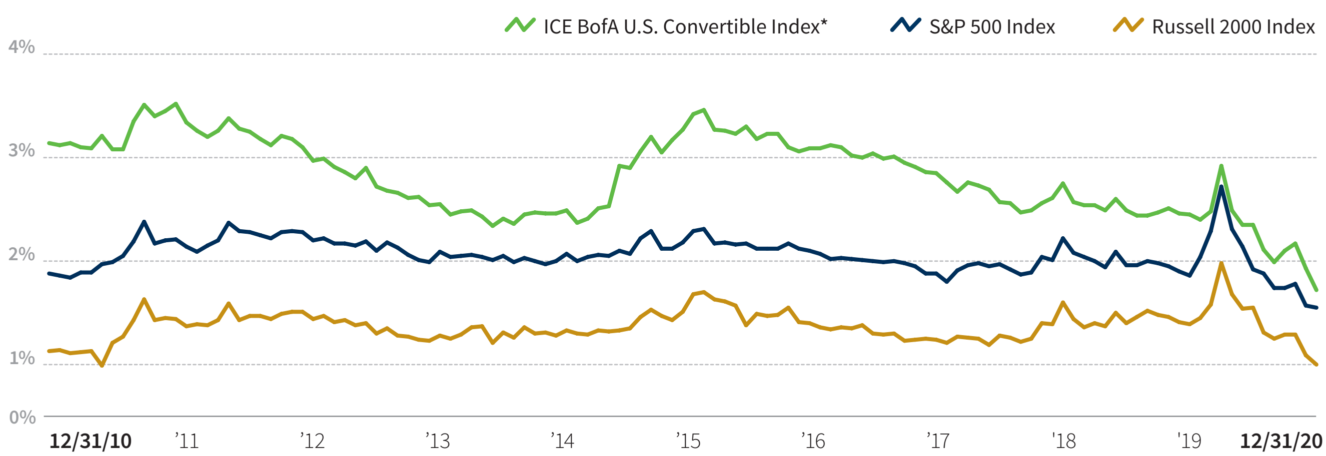
3. Opportunity for risk-adjusted returns While a convertible's fixed income characteristics can help mitigate downside risk if the issuing company's common stock performs poorly, the underlying equity option allows the holder to participate in a significant portion of the upside if the stock performs well. As a result, convertibles offer the potential for attractive risk-adjusted returns. Indeed, the performance of convertibles has been competitive, generally keeping pace with the performance of common stocks over the past 10 years (Figure 7).

4. Lower principal risk Convertibles generally represent a lower level of principal risk than common stock since convertibles are more senior in the capital structure. In the event of corporate bankruptcy, convertible holders are repaid ahead of common shareholders. Furthermore,

FIGURE 6

Convertibles had provided higher yields than stocks over the past 10 years

(Dividend yields, 12/31/10–12/31/20)



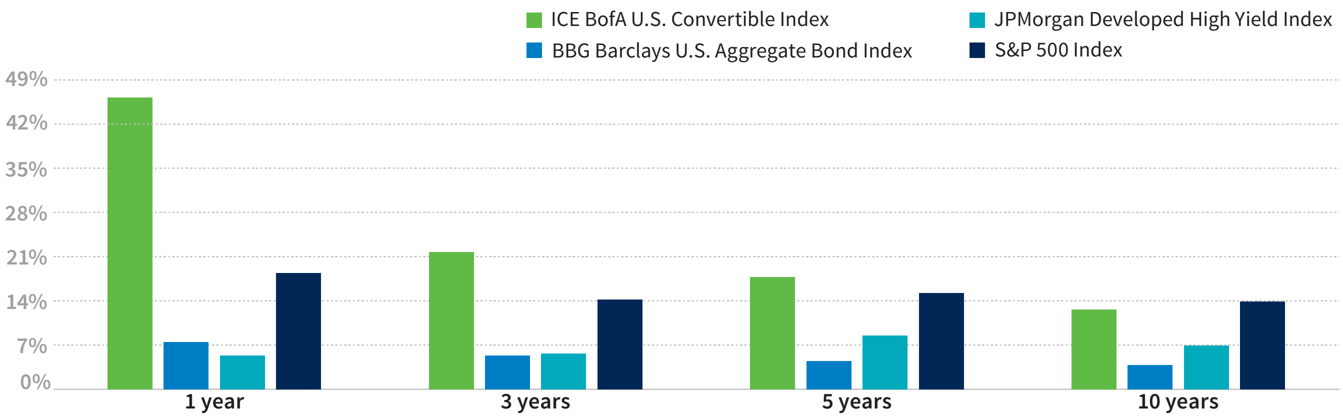
* Current yield.

Sources: ICE BofA, S&P Dow Jones Indices, Frank Russell Company, Putnam Research, 2020. Index performance is not indicative of Putnam performance or a guarantee of future results. You cannot invest in an index.

FIGURE 7

Convertibles can provide diversification in a portfolio

(Annualized asset class returns as of 12/31/20)



Correlation (5-year)	ICE BofA U.S. Convertible	BBG Barclays U.S. Aggregate	JPMorgan Developed High Yield	S&P 500
ICE BofA U.S. Convertible	—	-0.11	0.82	0.91
Risk (5-year)				
Sharpe ratio	1.21	1.07	0.91	0.93
Standard deviation	13.73%	3.13%	8.10%	15.13%

Source: Putnam research, 2020. Index performance is not indicative of Putnam performance or a guarantee of future results. You cannot invest in an index.

Sharpe ratio is a measure of historical adjusted performance calculated by dividing the portfolio's return minus the risk-free rate (FTSE 30-day Treasury Bill Index) by the standard deviation of the portfolio's return. The higher the ratio, the better the portfolio's return per unit of risk. Standard deviation measures how widely a set of values varies from the mean. It is a historical measure of the variability of return earned by an investment portfolio.

convertibles historically have had a lower long-term default rate versus certain corporate credit market like high yield and leveraged loans.

5. Lower interest-rate sensitivity The hybrid nature of convertible securities causes them to have lower duration — or interest-rate sensitivity — than pure debt instruments. Features that allow convertibles to participate in the equity upside potential of the underlying common stock, for example, can reduce their interest-rate sensitivity. As a result, convertible securities have been less influenced by interest-rate movements than bonds and have historically performed well in rising-rate markets.

Determining a convertibles allocation

Key considerations for determining an allocation should include return and volatility expectations, and understanding how a portfolio stands to potentially benefit from adding convertibles in place of or complementary to another asset class such as investment-grade or high-yield bonds, or equities. Consulting with managers who have long tenure in convertible strategies as well as research expertise across multiple asset classes can be helpful for investors considering an allocation.

Convertible securities prices may fall or fail to rise over time for several reasons, including general financial market conditions, changing market perceptions (including perceptions about the risk of default and expectations about monetary policy or interest rates), changes in government intervention in the financial markets, and factors related to a specific issuer or industry. These and other factors may lead to increased volatility and reduced liquidity in the fund's portfolio holdings. These risks are generally greater for convertible securities issued by small and/or midsize companies. Convertible securities' prices may be adversely affected by underlying common stock price changes. While convertible securities tend to provide higher yields than common stocks, the higher yield may not protect against the risk of loss or mitigate any loss associated with a convertible security's price decline. Convertible securities are subject to credit risk, which is the risk that an issuer of the fund's investments may default on payment of interest or principal. Credit risk is generally greater for below- investment-grade convertible securities. Convertible securities may be less sensitive to interest-rate changes than non-convertible bonds because of their structural features (e.g., convertibility, "put" features). Investors should carefully consider the risk involved before deciding to invest. As with any investment, there is a potential for profit as well as the possibility of loss.

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