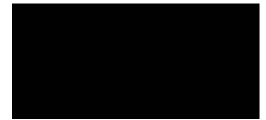

people in rural areas access to savings accounts and mobile payment tools. The majority of asset managers on our Investing with Impact Platform, for instance, utilize a tool called “Shareholder Engagement” to increase dialogue with companies about various issues, including livable wages, the employee wage gap, product safety and even climate change, which have a disproportionately negative impact on the poor. These issues are systemically related to alleviating poverty globally as outlined in SDG 1.

Direct investments. Sectors that directly address SDG 1, as identified by MS & Co. Sustainability Research, include utilities, banking, insurance and telecommunications. Within these sectors, companies exhibit high revenue exposure to products and services that can help to drive capital toward SDG 1 and lift people out of poverty globally. For example, insurance companies can help mitigate the financial shocks of unforeseen events such as medical emergencies, a death in the family, theft or natural disaster.

Third-party asset managers. There are a number of asset managers focused on eradicating poverty as part of their investment process and shareholder engagement efforts. In terms of investment selection, these managers evaluate corporate sustainable practices and environmental, social and governance (ESG) criteria, as well as revenue derived from products and services that provide support toward SDG 1.

In a recent analysis we determined that more than 50% of the 140 mutual fund, exchange-traded fund and separately managed account strategies on our Investing with Impact Platform are aligned with at least one SDG; the top three are climate action, affordable clean energy and gender equality.

In line with SDG 1, there are a number of asset managers focused on eradicating poverty. One active manager, for instance, has mapped an ESG framework, which outlines relevant environmental, social and governance considerations for each company subsector, against the SDGs. For example, the strategies have holdings in banks and card issuers/payment network companies giving them coverage of SDG 1, as each of these companies is addressing poverty through financial inclusion initiatives. In addition, this manager has identified a number of other subsectors, such as retailers, autos, homebuilders, household and personal care products, that contribute to SDG 1 through strong job-creation potential in these sectors.

Following its quantitative approach to investing, another manager assesses SDG alignment using both company ESG scores and its proprietary Sustainable Impact Metrics, which measure revenue exposure to specified themes. As part of its portfolio optimization process, the manager assigns bonus weightings to companies with high alignment.

We expect to see more systematic alignment with SDGs across sustainable and impact investing strategies over time as demand continues to grow. ■

Blockchain Beliefs

SCOTT HELFSTEIN, PhD

Senior Investment Strategist
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Blockchain may be the most emotionally charged record-keeping concept in history. That is, perhaps, the simplest way to describe blockchain, a technology that alters the means of bookkeeping. With that frame, the concept sounds a little more mundane. So, why do people take such passionate positions for or against the technology? The answer to this question requires an exploration of complex issues such as trust, transparency, vulnerability, risk and centralized authority.

A MEASURED APPROACH. Blockchain technology may become ubiquitous with time, but we take a more measured approach. In our view, blockchain's adoption will be driven by economic incentives and will most likely prove lasting in markets where there is a trust deficit. Emerging markets seem like the most predisposed. Mass adoption, however, could be a decade or more away.

Trust lies at the center of the blockchain story. What makes it different than other accounting methods is its transparency. The record of activity is available to all and auditable back to the first transaction. The technology relies on a partially encrypted distributed ledger and a series of computers that validate transactions. Computers add blocks of transactions that track items or payments. Since others on the network have a copy of the ledger, prior entries are difficult to change without absorbing high costs to manipulate the chain.

TRANSPARENCY OVER TRUST. With blockchain, trust becomes obsolete by means of transparency. The publically distributed ledger means that the balance of every account is theoretically available for others to read. There is no need for trust, and therefore no need for clearinghouses and multiple banks confirming the balance and receipt of funds. By eliminating the need for intermediaries, blockchain could reduce the cost of payments. The trade-off for lower transaction costs is a loss of privacy through transparency of the ledger.

However, today's trust-verification system evolved over centuries and has become fairly efficient. According to Morgan Stanley & Co., modern card networks can process 5,000 transactions per second. One bitcoin block, which averages about 2,020 transactions, takes 10 minutes. Bitcoin, as it stands now, cannot compete efficiently in low-value, high-volume transactions because of its slow processing speed. Where blockchain technology has proven useful in the payment industry is high-value, low-volume transactions, such as business-to-business payments.

CROSS-BORDER PAYMENTS. There may be further value in cross-border payments, where existing processes are expensive and slow. In countries with well-developed financial systems and a stable rule of law, current blockchain technology will have a hard time competing with the existing trust infrastructure. However, in countries without stable governments or financial systems, blockchain may offer an alternative solution to the trust deficit.

Outside of payments, other potential uses in finance may be more fruitful. For example, trade settlement is already a matter of public record. Exchanges identify and report the price and volume of a stock transaction. Blockchain technology could play a meaningful role in public market exchanges, and Australia is already looking to implement the technology.

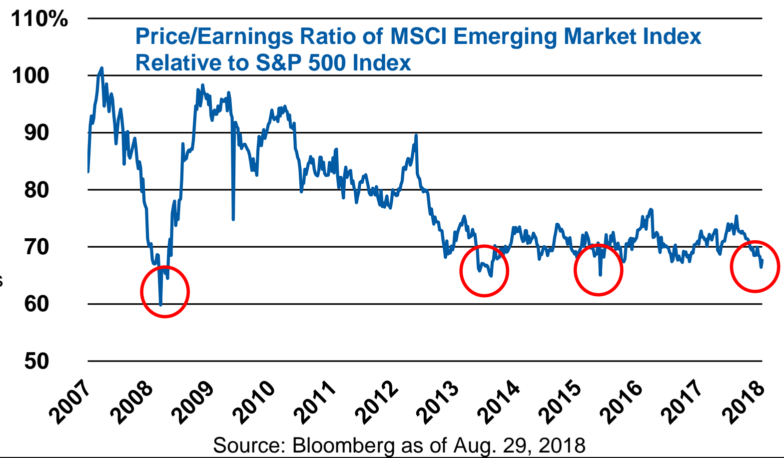
SMART CONTRACTS. A corollary use to a payment system is smart contracts. A distributed ledger protects merchants from customers who are unable to pay. What ensures customers will receive the goods promised? Currently, customers rely on the merchant's reputation and, in the last resort, recourse in court. Smart contracts are pieces of code that trigger the release of a good when money is received. If the customer does not receive the promised good or service, the money is not released.

Blockchain could also allow for a public record of all intellectual property rights. In the music industry, for example, there are organizations that keep records of which artists and labels own rights to which songs. These records do not always match up, and disputes arise. One immutable, public blockchain record of intellectual property rights would facilitate dispute resolution. When combined with smart contracts, such a public record could open up a whole new possibility of micropayments for things like news articles and television shows. ■

Our full report, "Blockchain Beliefs," is in the July 19 issue of AlphaCurrents*, a new publication on thematic investing.*

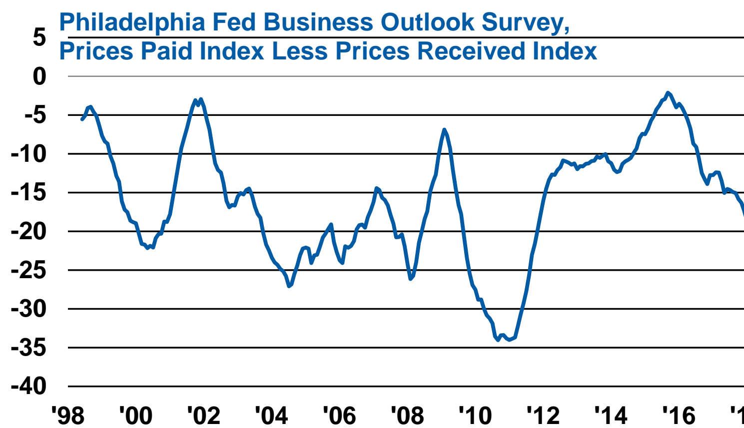
Emerging Market Equities May Look Cheap, but …

Emerging market (EM) equities are hovering near bear-market territory, with the MSCI Emerging Markets Index off some 18% from its January high—a significant divergence from US stocks. Trade disputes, weaker commodity prices, tightening by developed market central banks and a stronger US dollar have weighed on sentiment and prices. On a price/earnings basis, EM equities trade at a one-third discount to the S&P 500. This discount is historically wide, and it has only been breached three other times in the past 10-plus years (see chart). While this makes EM stocks look cheap, we would caution that past returns have been mixed when buying at such discounts. What looks like a buying opportunity can really be the market pricing in a decline in earnings per share. Instead, look for a pickup in earnings per share and currency stabilization as signs of optimism on EM equities.—*Matthew Brookman*



Source: Bloomberg as of Aug. 29, 2018

Another Indicator Suggests Profit Margins May Be Under Pressure

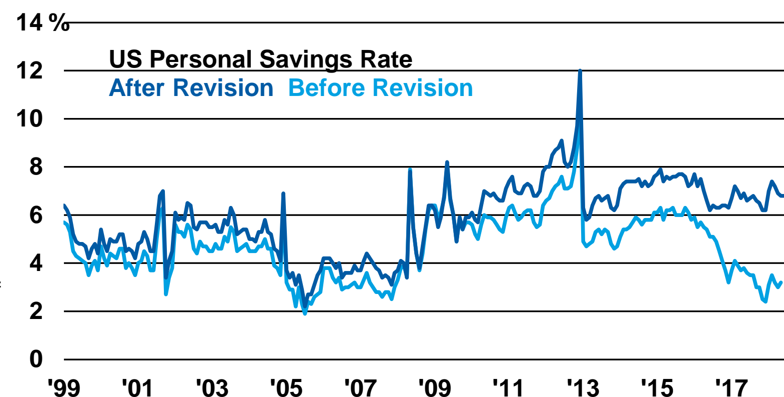


Source: Bloomberg as of July 31, 2018

The growing gap between the Federal Reserve Bank of Philadelphia's Prices Paid and Prices Received Indexes suggests corporate profit margins may be coming under pressure (see chart). The difference between the Prices Paid Index, which measures the cost of raw materials used to produce finished goods, and the Prices Received Index, which captures what customers are willing to pay for goods and services, stands at its widest level in six years as the rising cost of raw materials has outpaced potential revenue increases. Even though tax cuts provided an immediate boost to corporate profits, relatively benign inflation suggests that corporations may face difficulty passing off the higher costs to customers, for whom real wage growth has stalled. Although the US economy continues to grow, the impact of the stronger dollar and the inflationary impact of the US-China trade dispute on commodity goods and raw materials threaten earnings growth going forward.—*Chris Baxter*

Savings Rate Revision Points Toward More Consumer Purchasing Power

The US Commerce Department recently revised the methodology for calculating the personal savings rate, which raised the rate to 6.8% from than previously reported 3.2% (see chart). This may have two implications. First, the already extended economic expansion may be prolonged as consumers leverage their savings to expand their credit balances. Coupled with nearly record-low unemployment rates, this opportunity could help to keep consumption at a steady pace—rather than face the decline normally associated with the end of an economic expansion. What's more, a higher savings level strengthens household balance sheets and softens the impact of a recession. The current saving rate is notably higher than the saving rates observed ahead of the 2001 and 2008 downturns and can cushion consumer spending in periods of slowing economic activity.—*Vibhor Dave*



Source: Bloomberg as of June 30, 2018

Alternative Mutual Funds May Fill a Portfolio Niche

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After a multiyear rally in global stocks and bonds, the Global Investment Committee (GIC) believes the returns from traditional asset classes and investment strategies are likely to be lower than what we have seen between 2009 and 2017. Additionally, these lower returns are likely to come with increased volatility and the potential for more drawdowns than we have witnessed in recent years. Specifically, the GIC expects a significant decline in returns for stocks and bonds, as well as an increase in volatility during the next seven years. With that in mind, we believe that "alternative" investments, which are not correlated to traditional stock and bonds, may enhance returns and reduce risk.

Throughout previous market cycles, most alternative investments were hedge funds and, to invest in them, individuals needed to be "qualified"— have at least $5 million in investments. Choices for nonqualified purchasers were limited. However, in the past 10 years, more mutual funds have pursued alternative strategies, making them available to a broad range of investors. According to Morningstar, total assets under management (AUM) for alternative mutual funds has gone to $182 billion on June 30 from $57 billion in 2009; at the same time, the number of funds has grown as well to 532 from 194.

DAILY LIQUIDITY AND PRICING. Like traditional mutual funds, alternative mutual funds provide daily liquidity and pricing, as well as regular reporting of their holdings. In contrast, most hedge funds have historically limited reporting of their holdings (see table). The mutual fund wrapper also brings the convenience of 1099 tax reporting as opposed to a Schedule K-1. The downside is that alternative mutual funds may have less flexibility with their trading strategies than what is available to hedge funds. By regulation, mutual funds must limit borrowing or leverage, segregate capital used to cover short positions, restrict investment in illiquid securities to 15% of total assets and provide daily liquidity and pricing.

In contrast, hedge funds are lightly regulated and are not bound by those restrictions. This regulatory framework may reduce the opportunities for alternative mutual funds compared with hedge funds, but it also provides strict oversight, transparency and liquidity to safeguard investor interests.

There are also large differences in fees. Most private hedge funds typically charge a 1.5%-to-2.0% annual management fee plus a performance fee, usually 15% to 20% of the profits. In contrast, alternative mutual funds only charge management fees and other expenses, which together

Alternative Mutual Funds vs. Private Hedge Fund Offerings

		Alternative Mutual Funds	Private Hedge Fund Offerings
Investment	Style	Varies by strategy	Varies by strategy
	Flexibility	Limited flexibility	Greater flexibility
	Derivatives	Limited ability to use	Greater ability to use
	Leverage	Limited ability to use	Greater ability to use
	Transparency	High	Generally low
	Liquidity	Generally liquid securities	Generally liquid and less liquid securities
Operations	Minimums	Low	High/private investor qualifications
	Fees	Typically asset-based management fees	Typically management and performance fees
	Tax Reporting	IRS Form 1099	Typically IRS Form K-1
	Redemptions	Generally daily	Limited opportunity to redeem
Regulatory	Oversight	1940 Act restrictions	Limited SEC oversight
	Diversification Requirements	Position sizes, sector exposures	None, varies widely

Source: Morgan Stanley Wealth Management Global Investment Manager Analysis

range between 1.0% and 2.0% annually. Unlike most hedge funds, managers of alternative mutual funds do not typically earn incentive fees.

PERFORMANCE ISSUES. The returns from alternative mutual funds have been lackluster at times since the financial crisis. However, private hedge funds have faced similar performance issues as the market environment has been more conducive for long-only strategies. A comparison of alternative mutual fund and hedge fund performance demonstrates the similarities in terms of returns, standard deviation and beta to equities on a strategy basis using both Morningstar and HFRI Indexes. We believe these results strengthen the argument for investors to consider alternative mutual funds in their asset allocation decisions. That said, manager selection will be a key determinant to success in investing in alternative mutual funds or hedge funds.

Like hedge funds, alternative mutual funds utilize various investment strategies and the objective evaluation of performance can be challenging as there is no single commonly accepted benchmark. As a result, we believe it is important to analyze alternative mutual fund performance relative to a respective hedge fund strategy index to try to make an "apples to apples" comparison when analyzing performance within benchmarks. ■

This article is excerpted from "Perspective Update: Alternative Mutual Funds," July 10, 2018.

How Differences in Yields Impact Markets

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The low interest rate environment that has persisted since the financial crisis has impacted financial markets profoundly. Easy monetary policies injected unprecedented liquidity into the system, suppressing interest rates and sending investors in search of higher yields. This cross-market fund flow has increasingly impacted broader asset class returns, in addition to the underlying fundamentals that drive returns of individual securities.

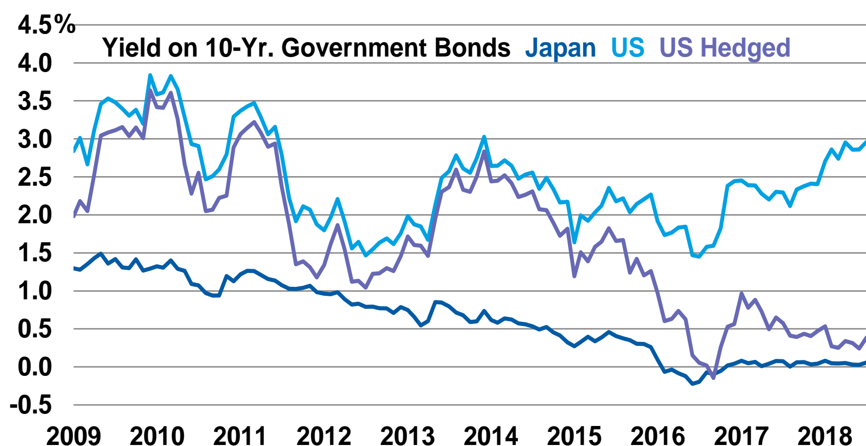
Throughout the recent economic expansion and the tightening in US monetary policy, investors have focused on the growing yield differentials between US Treasuries and Japanese government bonds (JGBs), at 278 basis points, and German Bunds, at 250 basis points, which stand near recent historical wides. Analysts have attributed constrained long-term US rates in part to Treasuries' higher yields relative to their peers, which has increased demand and attracted an inflow of funds from foreign investors.

IF GLOBAL RATES RISE. Accordingly, as interest rates begin to increase globally, US rates will have scope to rise further. To wit, following reports in July that the Bank of Japan may consider changes to its yield-curve control program, the 10-year JGB yield doubled to 0.12%; the 10-year US Treasury note added 13 basis points in subsequent trading to retest the 3% level.

During the past few years, inflows to US assets have bolstered returns for domestic investors. At the same time, these factors have increased foreign investors' currency-hedging costs.

CURRENCY DEPRECIATION. Economic theory postulates that in order to eliminate arbitrage opportunities between assets denominated in different currencies, investors buying assets in a foreign market with higher prevailing interest rates will see the value of the foreign currency depreciate to offset this yield advantage.

Currency Hedging Can Eat Up US Bonds' Extra Yield



Source: Bloomberg of Aug. 23, 2018

While this relationship may not always hold in reality in short investment horizons due to exogenous factors, the impact of currency movements on returns remains an important consideration. Hedging costs can constitute a material component of potential return in the current environment, in which yields are still at historical lows yet rate differentials are at extremes.

LEAVING BONDS. In this context, US Treasuries and corporate bonds may appear less attractive to investors unwilling to assume currency risk. These investors may see their total returns eroded after factoring in the costs of hedging this exposure. For a Japanese investor, for example, a 10-year US Treasury yields little more than an equal-maturity Japanese government bond (see chart). Facing low yields both domestically as well as on a hedged basis in the US, foreign investors have increasingly turned their attention to other markets, as evidenced in fund flow data. While cumulative investment grade bond inflows totaled nearly $40 billion in 2017, flows through the first half of 2018 declined to the lowest since 2013, given retracement by foreign investors; additionally, the percentage of foreign-ownership of US corporate bonds, at approximately 30%, also began to decline through the start of the year. This dynamic has contributed to the relative weakness in investment grade spreads in 2018 as compared with 2017.

Markets have remained resilient in 2018 despite increased volatility on tighter financial conditions, geopolitical and trade tensions and diverging global economic data. As global investors weigh the potential return of investment opportunities, the costs of holding such investments remain equally relevant. Rising rates in the US have simultaneously increased the appeal of US fixed income assets while also driving some investors to other markets, ultimately impacting the returns of investors both foreign and domestic. ■

Preparing for a New Sector Spectrum

The Global Industry Classification Standard (GICS), which is tracked by index providers including Standard & Poor's and MSCI, will shuffle the deck later this month, adding a communication services sector and retiring the telecommunications sector. Also impacted are the consumer discretionary and information technology sectors, which will say goodbye to some constituents. Morgan Stanley Wealth Management Market Strategist Vijay Chandar led a discussion on the investment implications with team members Michael Jabara, head of ETF Research and Lucy Yan, cross-asset strategist. Matthew Bartolini, who heads SPDR America Research at State Street Global Advisors, also joined in. The following is an edited version of their conversation.

VIJAY CHANDAR (VC): Can you walk us through the changes that are going to occur later this month?

MATTHEW BARTOLINI (MB): The sector change is going to affect 10% of the S&P 500 market capitalization, which is pretty sizeable and impacts a lot of different security classifications.

Specifically, the current telecom sector is being reimagined and transformed into the communication services sector, which will include some consumer media and tech titans that use the internet as a medium to communicate with their end clients and also those that allow consumer-to-consumer facilitation of communication. In total, this change will impact 17 securities that are currently classified within consumer discretionary and six stocks from the technology sector.

When the GICS change was announced, investors were notified that it would happen on Sept. 28, at the end of the quarter, but that's really referring to any sort of data licensing arrangement or data transmission; Sept. 21 is when investable S&P indexes are being rebalanced.

VC: Big picture, it's important to note that the GICS classification will continue to have 11 sectors, unlike that move we had a couple of years ago when real estate was pulled out of financials and we went from 10 to 11 (see table, page 14). In terms of market impact and what to expect, can you explain what we saw when the last sector change happened and any takeaways to think about this time around.

MB: Back with financials and real estate, there wasn't much of a market impact as a result of the size and scale. It was roughly 20 securities in the S&P 500 and only represented about 3% of the market cap.

With respect to any investment implications for this, these are some pretty noticeable names being removed from technology. If you hold an exchange-traded fund (ETF) tracking the consumer discretionary sector now, you have exposure to names now that you won't after Sept. 21 as a result of the rebalance.

How big will this turnover or trading event be? Some sell-side estimates that we've seen are around $30 billion of two-way trading notional value—which sounds large—but put in context, it's less than half of the larger annual mother-of-all rebalances of the Russell 1000 and 2000, which was near $70 billion this year. These are very large liquid names that have a significant amount of ownership, not only in index-based strategies but also through active management.

The 23 stocks that are being reclassified trade around $800 million a day on the secondary market, while the stocks within these sectors that are not being reclassified trade around $300 million a day. So, from our perspective, the investment implications are minimal.

VC: This move has also been pretty well telegraphed at this point. So while you could see flows pick up when the rebalancing happens, I don't think it's really going to be much of a surprise to too many folks. In terms of the mechanics of the implementation, what is State Street Global Advisors doing?

MB: We're going to make adjustments within the ETFs that track tech and consumer discretionary, so that what we're always following the index as would any true index manager providing precise beta exposure. Therefore, we're going to rebalance the funds when the S&P indexes change, and in doing so, we're going to weigh cost per exposure and use discretion in the days leading up to the change, leveraging some of the benefits of the ETF structure as well.

We potentially may trade on one or two days to mitigate tracking error, but still maintain a cost-efficient profile so investors can have access to the sectors and the beta exposure necessary up until the change and right after it.

One of the most common questions is: Will we have capital gain distributions as a result of the rebalancing? Our expectation at this time is that the ETFs will not have any capital gains distributions and part of that are the benefits of the ETF vehicle.

VC: Mike, can you share what the rest of the ETF industry is doing in anticipation of the GICS change?

MICHAEL JABARA (MJ): By our count there are 23 ETFs that are being meaningfully impacted. Vanguard, another

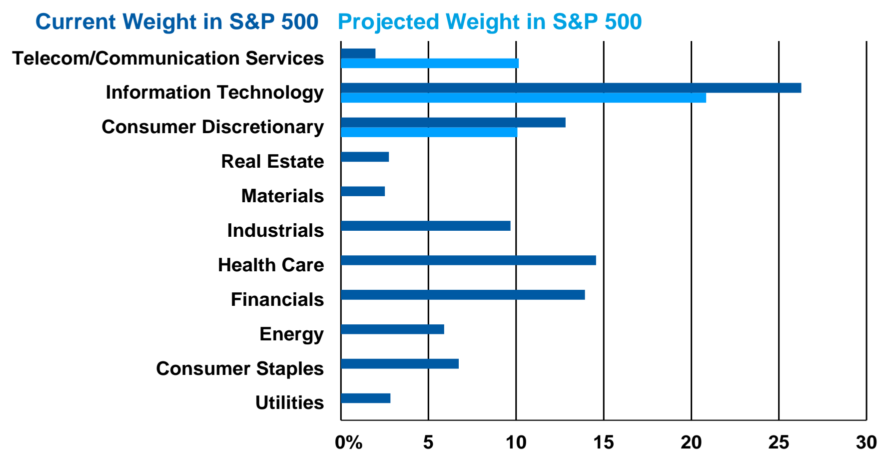
heavyweight in the US sector ETF market, has already begun making changes. For example, they moved impacted ETFs off of their traditional MSCI indexes and have begun to track transitional indexes. The transitional indexes allow Vanguard to implement these changes over a period of months rather than a day or a few days. Fidelity, a smaller player in US sector ETFs, is going to make the changes in accordance with the MSCI rebalancing in December. Another player that has some exposure is Invesco, which has not put out anything publically yet.

BlackRock, which obviously has a lot of ETF assets, is interestingly different than some of the other providers, as most of the firm's US sector ETFs do not track GICS classifications, so they're actually not making any changes immediately. That said, there may be some things to expect at the end of the year with those ETFs. The other piece of the puzzle, their global sector ETFs, will make changes in September.

VC: Lucy, how should investors think about the new communication services sector as it fits in with the new S&P 500?

LUCY YAN (LY): Traditionally, the telecom sector is regarded as a value play, but the new communication services sector is going to look more like growth instead of value, with around 70% of the holdings considered growth stocks. If you look at the projected valuation of the new sector, it's trading at around 19 times forward price to earnings—similar to how the technology sector is trading now—versus the S&P 500's current valuation of 17.5. Analysts' long-term earnings growth estimates are expecting this sector to grow at about 19% annually.

How S&P 500 Sectors May Look After Reclassification



Source: Morgan Stanley Wealth Management as of Aug. 29, 2018

It's worth highlighting that the telecom sector historically has had a very high dividend yield of almost 6%, but because this change will bring in a lot of the tech and consumer discretionary companies, the dividend yield is expected to come down significantly.

In terms of defensive versus cyclical, we would regard this new sector to be more like a cyclical play with a slightly higher beta to the S&P 500. We also think the reclassification will push the consumer discretionary valuation—which the Global Investment Committee notes is at a 10-year peak—even higher.

VC: The Global Investment Committee's call has been to go more defensive, and as part of that we know a lot of people have looked at the telecom sector, but our house views wouldn't necessarily view the communication services sector the same way. So if you're looking to get more defensive, the communications sector is not the way to go.

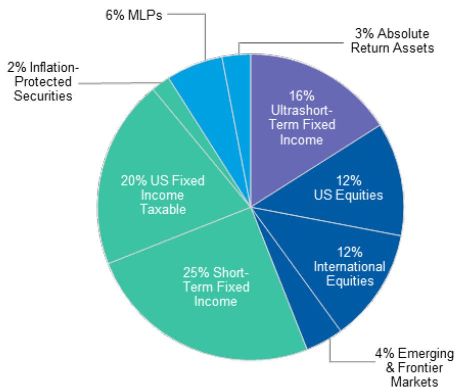
These sector changes are certainly going to have impacts but mechanically we don't think there's going to be a huge impact to investors. Obviously, exposures will change and there will be flows associated with this, but we don't think this is something to fear. Ultimately, based on precedent, we're not necessarily looking for a huge market impact before or after the changes—but based on how impacted sectors will look going forward, investors should consider examining their sector exposures. ■

Matthew Bartolini is not an employee of Morgan Stanley Wealth Management. Opinions expressed by him are solely his own and may not necessarily reflect those of Morgan Stanley Wealth Management or its affiliates.

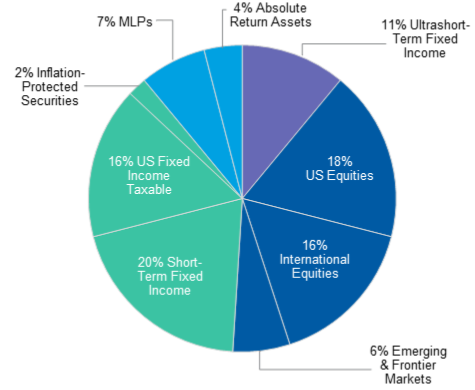
Global Investment Committee Tactical Asset Allocation

The Global Investment Committee provides guidance on asset allocation decisions through its various models. The five models below are recommended for investors with up to $25 million in investable assets. They are based on an increasing scale of risk (expected volatility) and expected return.

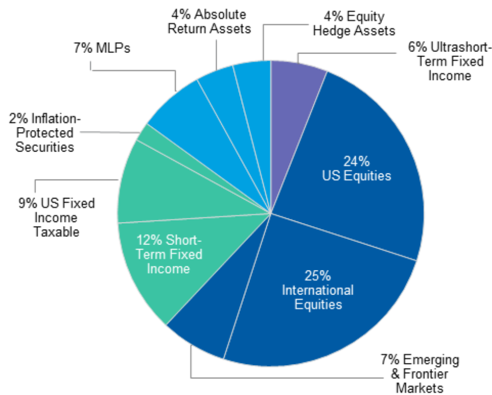
Wealth Conservation



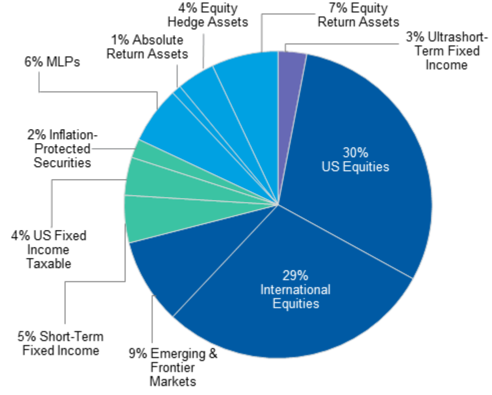
Income



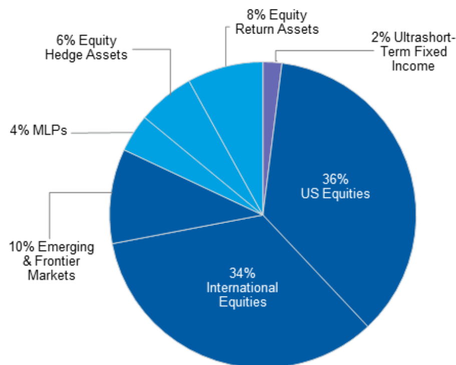
Balanced Growth



Market Growth



Opportunistic Growth



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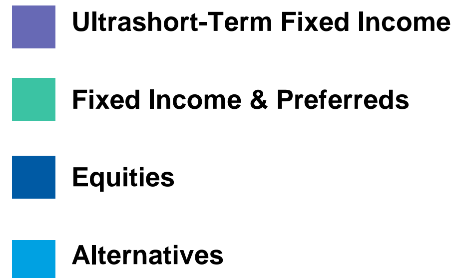
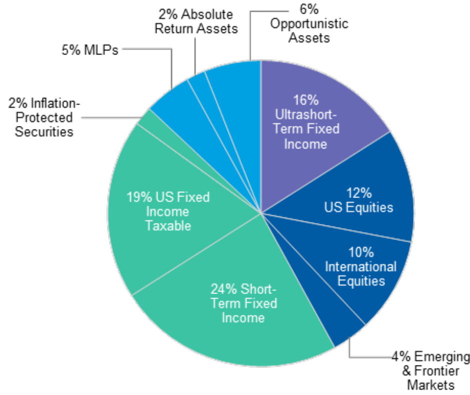


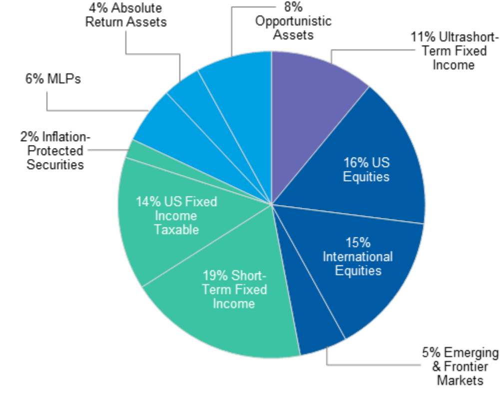
Source: Morgan Stanley Wealth Management GIC as of Aug. 31, 2018

The Global Investment Committee provides guidance on asset allocation decisions through its various models. The five models below are recommended for investors with over $25 million in investable assets. They are based on an increasing scale of risk (expected volatility) and expected return.

Wealth Conservation



Income



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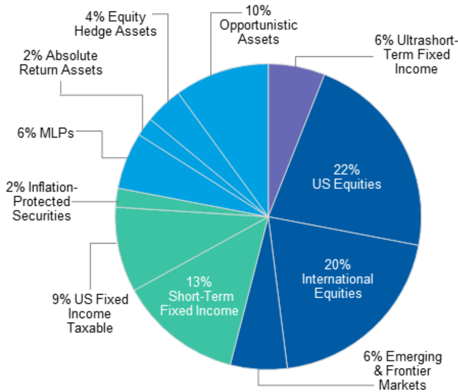
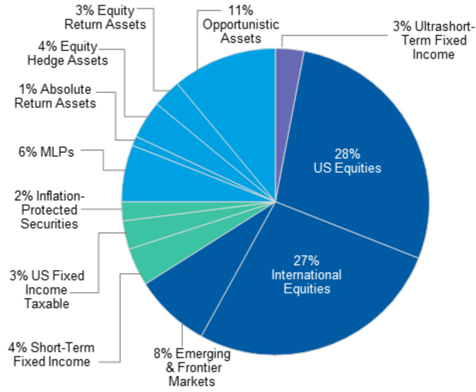
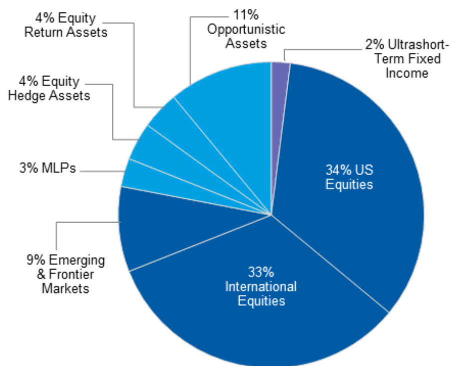


Market Growth



Opportunistic Growth



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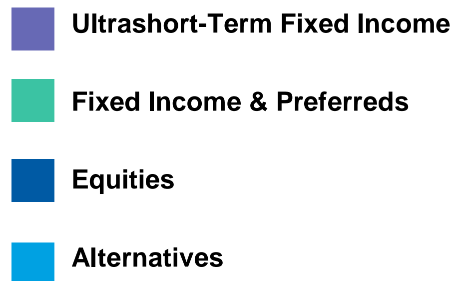

Source: Morgan Stanley Wealth Management GIC as of Aug. 31, 2018

Tactical Asset Allocation Reasoning

Global Equities	Relative Weight Within Equities	
US	Equal Weight	US equities have done exceptionally well since the global financial crisis, but they are now in the latter stages of a cyclical bull market. While the acceleration of the Trump/Republican progrowth agenda has created a booming economy and earnings outlook, it may also be sowing the seeds for the end of the cycle as the Fed is forced to raise rates and tighten policy in a more deliberate manner. With the exceptional run in growth and small-cap stocks, we recently reduced positions in both and favor large-cap value stocks.
International Equities (Developed Markets)	Overweight	We maintain a positive bias for Japanese and European equity markets. The populist movements around the world are now spreading to Italy, which may spur further fiscal support from Germany and France. This would be a potential positive catalyst but not likely to develop until September.
Emerging Markets	Overweight	Emerging market (EM) equities have been the strongest-performing region over the past 24 months but are underperforming so far in 2018. Some of this is simply the result of a market that needs to consolidate strong gains the past few years. However, it is also directly related to the Fed's tightening campaign. We expect EM to find support not far from current levels and have a strong finish to the year.
Global Fixed Income	**Relative Weight Within Fixed Income**	
US Investment Grade	Underweight	We have recommended shorter-duration* (maturities) since March 2013, given the extremely low yields and potential capital losses associated with rising interest rates from such low levels. While interest rates have remained exceptionally low, US economic data have been very strong recently and the Fed is now raising rates at an accelerating pace. Adding some longer duration when 10-year US Treasury yields are above 3% makes sense.
International Investment Grade	Underweight	Yields are even lower outside the US, leaving very little value in international fixed income, particularly as the global economy begins to recover more broadly. While interest rates are likely to stay low, the offsetting diversification benefits do not warrant much, if any, position, in our view.
Inflation-Protected Securities	Overweight	With deflationary fears having become extreme in 2015 and early 2016, these securities still offer relative value in the context of our forecasted acceleration in global growth and our expectations for oil prices and the US dollar's year-over-year rate of change to revert toward 0%. That view played out in 2016 and 2017 but has not yet run its course.
High Yield	Underweight	High yield has performed exceptionally well since early 2016 with the stabilization in oil prices and retrenchment by the weaker players. We recently took our remaining high yield positions to zero as we prepare for deterioration in quality of earnings in the US led by lower operating margins. Credit spreads have likely reached a low for this cycle.
Alternative Investments	**Relative Weight Within Alternative Investments**	
Real Estate/REITs	Underweight	Real estate investment trusts (REITs) have underperformed global equities since mid-2016 when interest rates bottomed. We think it is still too early to reconsider our underweight zero allocation given the further rise in rates we expect and deteriorating fundamentals for the industry. Non-US REITs should be favored relative to domestic REITs.
Master Limited Partnerships/Energy Infrastructure*	Overweight	Master limited partnerships (MLPs) have traded better since their capitulation in March around the FERC regulatory announcement. With oil prices much more stable and on an upward path, MLPs have garnered more interest given their 8% to 10% yields.
Hedged Strategies (Hedge Funds and Managed Futures)	Equal Weight	This asset category can provide uncorrelated exposure to traditional risk-asset markets. It tends to outperform when traditional asset categories are challenged by growth scares and/or interest rate volatility spikes. As volatility becomes more persistent in 2018, these strategies should do better than in recent years.

Source: Morgan Stanley Wealth Management GIC as of Aug. 31, 2018

For more about the risks to Master Limited Partnerships (MLPs) and Duration, please see the Risk Considerations section beginning on page 18 of this report.

Index Definitions

For index, indicator and survey definitions referenced in this report please visit the following:
http://www.morganstanleyfa.com/public/projectfiles/id.pdf

Risk Considerations

Virtual Currency Products (Cryptocurrencies)

Buying, selling and using Bitcoin or other virtual currency products (cryptocurrencies) is highly speculative and may result in substantial losses in a short period of time.

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Alternative Investments

Alternative investments often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are suitable only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices; Lack of liquidity in that there may be no secondary market for a fund; Volatility of returns; Restrictions on transferring interests in a fund; Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; Absence of information regarding valuations and pricing; Complex tax structures and delays in tax reporting; Less regulation and higher fees than mutual funds; and Risks associated with the operations, personnel, and processes of the manager. Further, opinions regarding Alternative Investments expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other businesses/affiliates of Morgan Stanley Wealth Management.

Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing.

Alternative investments involve complex tax structures, tax inefficient investing, and delays in distributing important tax information. Individual funds have specific risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice.

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ETFs and Mutual Funds

An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices. Investing in an international ETF also involves certain risks and considerations not typically associated with investing in an ETF that invests in the securities of U.S. issues, such as political, currency, economic and market risks. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics. ETFs investing in physical commodities and commodity or currency futures have special tax considerations. Physical commodities may be treated as collectibles subject to a maximum 28% long-term capital gains rates, while futures are marked-to-market and may be subject to a blended 60% long- and 40% short-term capital gains tax rate. Rolling futures positions may create taxable events. For specifics and a greater explanation of possible risks with ETFs¸ along with the ETF's investment objectives, charges and expenses, please consult a copy of the ETF's prospectus. Investing in sectors may be more volatile than diversifying across many industries. The investment return and principal value of

ETF investments will fluctuate, so an investor's ETF shares (Creation Units), if or when sold, may be worth more or less than the original cost. ETFs are redeemable only in Creation Unit size through an Authorized Participant and are not individually redeemable from an ETF.

While **mutual funds and ETFs** may at times utilize nontraditional investment options and strategies, they should not be equated with unregistered privately offered alternative investments. Because of regulatory limitations, mutual funds and ETFs that seek alternative-like investment exposure must utilize a more limited investment universe. As a result, investment returns and portfolio characteristics of alternative mutual funds and ETFs may vary from traditional hedge funds pursuing similar investment objectives. Moreover, traditional hedge funds have limited liquidity with long "lock-up" periods allowing them to pursue investment strategies without having to factor in the need to meet client redemptions and ETFs trade on an exchange. On the other hand, mutual funds typically must meet daily client redemptions. This differing liquidity profile can have a material impact on the investment returns generated by a mutual or ETF pursuing an alternative investing strategy compared with a traditional hedge fund pursuing the same strategy. Nontraditional investment options and strategies are often employed by a portfolio manager to further a fund's investment objective and to help offset market risks. However, these features may be complex, making it more difficult to understand the fund's essential characteristics and risks, and how it will perform in different market environments and over various periods of time. They may also expose the fund to increased volatility and unanticipated risks particularly when used in complex combinations and/or accompanied by the use of borrowing or "leverage."

Investors should carefully consider the investment objectives and risks as well as charges and expenses of an exchange-traded fund and mutual fund before investing. The prospectus contains this and other important information about the mutual fund. To obtain a prospectus, contact your Financial Advisor or visit the mutual fund company's website. Please read the prospectus carefully before investing.

Hypothetical Performance

General: Hypothetical performance should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Hypothetical performance results have inherent limitations. The performance shown here is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation.

Despite the limitations of hypothetical performance, these hypothetical performance results may allow clients and Financial Advisors to obtain a sense of the risk / return trade-off of different asset allocation constructs.

Investing in the market entails the risk of market volatility. The value of all types of securities may increase or decrease over varying time periods.

This analysis does not purport to recommend or implement an investment strategy. Financial forecasts, rates of return, risk, inflation, and other assumptions may be used as the basis for illustrations in this analysis. They should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. No analysis has the ability to accurately predict the future, eliminate risk or guarantee investment results. As investment returns, inflation, taxes, and other economic conditions vary from the assumptions used in this analysis, your actual results will vary (perhaps significantly) from those presented in this analysis.

The assumed return rates in this analysis are not reflective of any specific investment and do not include any fees or expenses that may be incurred by investing in specific products. The actual returns of a specific investment may be more or less than the returns used in this analysis. The return assumptions are based on hypothetical rates of return of securities indices, which serve as proxies for the asset classes. Moreover, different forecasts may choose different indices as a proxy for the same asset class, thus influencing the return of the asset class.

MLPs

Master Limited Partnerships (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk.

Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk.

The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value.

MLPs carry interest rate risk and may underperform in a rising interest rate environment. MLP funds accrue deferred income taxes for future tax liabilities associated with the portion of MLP distributions considered to be a tax-deferred return of capital and for any net operating gains as well as capital appreciation of its investments; this deferred tax liability is reflected in the daily NAV; and, as a result, the MLP fund's after-tax performance could differ significantly from the underlying assets even if the pre-tax performance is closely tracked.

Duration

Duration, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates. Generally, if interest rates rise, bond prices fall

and vice versa. Longer-term bonds carry a longer or higher duration than shorter-term bonds; as such, they would be affected by changing interest rates for a greater period of time if interest rates were to increase. Consequently, the price of a long-term bond would drop significantly as compared to the price of a short-term bond.

International investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies.

Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention.

Physical precious metals are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. If sold in a declining market, the price you receive may be less than your original investment. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be suitable for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor. The Securities Investor Protection Corporation ("SIPC") provides certain protection for customers' cash and securities in the event of a brokerage firm's bankruptcy, other financial difficulties, or if customers' assets are missing. SIPC insurance does not apply to precious metals or other commodities.

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

The returns on a portfolio consisting primarily of **environmental, social, and governance-aware investments (ESG)** may be lower or higher than a portfolio that is more diversified or where decisions are based solely on investment considerations. Because ESG criteria exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria. The companies identified and investment examples are for illustrative purposes only and should not be deemed a recommendation to purchase, hold or sell any securities or investment products. They are intended to demonstrate the approaches taken by managers who focus on ESG criteria in their investment strategy. There can be no guarantee that a client's account will be managed as described herein.

Managed futures investments are speculative, involve a high degree of risk, use significant leverage, have limited liquidity and/or may be generally illiquid, may incur substantial charges, may subject investors to conflicts of interest, and are usually suitable only for the risk capital portion of an investor's portfolio. Before investing in any partnership and in order to make an informed decision, investors should read the applicable prospectus and/or offering documents carefully for additional information, including charges, expenses, and risks. Managed futures investments are not intended to replace equities or fixed income securities but rather may act as a complement to these asset categories in a diversified portfolio.

Hedge funds may involve a high degree of risk, often engage in leveraging and other speculative investment practices that may increase the risk of investment loss, can be highly illiquid, are not required to provide periodic pricing or valuation information to investors, may involve complex tax structures and delays in distributing important tax information, are not subject to the same regulatory requirements as mutual funds, often charge high fees which may offset any trading profits, and in many cases the underlying investments are not transparent and are known only to the investment manager.

Bonds are subject to interest rate risk. When interest rates rise, bond prices fall; generally the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Bonds are subject to the credit risk of the issuer. This is the risk that the issuer might be unable to make interest and/or principal payments on a timely basis. Bonds are also subject to reinvestment risk, which is the risk that principal and/or interest payments from a given investment may be reinvested at a lower interest rate.

Bonds rated below investment grade may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk and price volatility in the secondary market. Investors should be careful to consider these risks alongside their individual circumstances, objectives and risk tolerance before investing in high-yield bonds. High yield bonds should comprise only a limited portion of a balanced portfolio.

Treasury Inflation Protection Securities' (TIPS) coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

Ultrashort-term fixed income asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

The majority of $25 and $1000 par **preferred securities** are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 5 to 10 years, depending on the particular issue. The investor would still have income tax liability even though payments would not have been received. Price quoted is per $25 or $1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price.

The initial interest rate on a **floating-rate security** may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk.

The market value of **convertible bonds** and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yield.

Some $25 or $1000 par **preferred securities** are QDI (Qualified Dividend Income) eligible. Information on QDI eligibility is obtained from third party sources. The dividend income on QDI eligible preferreds qualifies for a reduced tax rate. Many traditional 'dividend paying' perpetual preferred securities (traditional preferreds with no maturity date) are QDI eligible. In order to qualify for the preferential tax treatment all qualifying preferred securities must be held by investors for a minimum period – 91 days during a 180 day window period, beginning 90 days before the ex-dividend date.

Yields are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision.

Credit ratings are subject to change.

Principal is returned on a monthly basis over the life of a **mortgage-backed security.** Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. Yields and average lives are estimated based on prepayment assumptions and are subject to change based on actual prepayment of the mortgages in the underlying pools. The level of predictability of an MBS/CMO's average life, and its market price, depends on the type of MBS/CMO class purchased and interest rate movements. In general, as interest rates fall, prepayment speeds are likely to increase, thus shortening the MBS/CMO's average life and likely causing its market price to rise. Conversely, as interest rates rise, prepayment speeds are likely to decrease, thus lengthening average life and likely causing the MBS/CMO's market price to fall. Some MBS/CMOs may have "original issue discount" (OID). OID occurs if the MBS/CMO's original issue price is below its stated redemption price at maturity, and results in "imputed interest" that must be reported annually for tax purposes, resulting in a tax liability even though interest was not received. Investors are urged to consult their tax advisors for more information.

Investing in currency involves additional special risks such as credit, interest rate fluctuations, derivative investment risk, and domestic and foreign inflation rates, which can be volatile and may be less liquid than other securities and more sensitive to the effect of varied economic conditions. In addition, international investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies.

Investing in foreign and emerging markets entails greater risks than those normally associated with domestic markets, such as political, currency, economic and market risks. These risks are magnified in **frontier markets.**

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment.

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

Stocks of medium-sized companies entail special risks, such as limited product lines, markets, and financial resources, and greater market volatility than securities of larger, more-established companies.

Value investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

REITs investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies. **Technology stocks** may be especially volatile. Risks applicable to companies in the **energy and natural resources** sectors include commodity pricing risk, supply and demand risk, depletion risk and exploration risk.

Rebalancing does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

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