

# On the Markets

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## The Late Innings Can Be Exciting

While the NFL is still the most lucrative professional sports league in the US, both the NBA and MLB are gaining in popularity. For the NBA, it's easy to see why—basketball games are much faster paced, and there are very few breaks in the action. For MLB, it's harder to understand. While management has done a good job at trying to speed them up, baseball games still last much longer than typical basketball games. However, I have noticed that the late innings have become more exciting as teams now use pinch hitters and relief pitchers more aggressively. That means the scores for more games have become closer near the end, keeping fans engaged.

Our call this year for a rolling bear market continues, with numerous categories of financial assets taking their turn getting hit as much as 20% or more. As is typical in these types of markets, the weakest links get hit first while higher-quality assets hold out until the end. In this year's version, assets like Bitcoin and emerging market equities have stood out as the weakest links and have appropriately corrected the most. From an equity market perspective, the US has been the standout performer, which also makes sense. After all, the US is still considered a safe-haven market when global investors get nervous.

However, even within the US market, we have noticed a significant divergence between the perceived weakest links and the stronger ones—and it has gotten to the point where there are really only a few safe havens remaining within the equity market. First, as mentioned, it's the US equity market from a regional perspective. From a sector standpoint, it's really down to just technology and consumer discretionary and, from a style perspective, small caps look extended and crowded.

Our call was that these groups are likely to get hit next and, indeed, we think a meaningful correction in these asset categories began late last month. The bad news is that these sectors make up almost 40% of the S&P 500 and close to half of the Nasdaq Composite Index so the correction will leave a mark on the broader US indexes if we're right. The good news is that, once this happens, the rolling bear market will likely be over and we can rally sharply into the end of the year.

To prepare for this risk, we recently made tactical asset allocations to the Global Investment Committee Asset Allocation Models (see *Tactical Asset Allocation Changes*, July 19, 2018). Specifically, we sold 25% of our US large-cap growth position and put it into large-cap value. We also reduced our small-cap holdings by 30% and put that into

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ultrashort-term fixed income/cash equivalents, which are now earning a positive real yield for the first time in 10 years. Using the Russell 1000 Growth Index as a large-cap growth benchmark, tech and consumer discretionary stocks make up close to 60% of the index, but they are only 18% of the Russell 1000 Value Index, a large-cap value benchmark. Conversely, financials, energy and more defensive sectors like health care, utilities, consumer staples and telecom services make up 65% of the Russell 1000 Value Index. We prefer these sectors because they are either defensive and/or have already gone through their rolling bear market this year, experiencing a valuation rerating of 20% or more.

In addition to our view that the rolling bear market will complete the circle by finally hitting the strongest asset categories, we have noticed some rather extreme measures of performance and valuation between large-cap growth and large-cap value (see charts). In fact, we have only experienced a more extreme period one time—during the dot-com bubble in the late 1990s. Could we be experiencing another tech bubble, meaning we're getting off the train too early? We doubt it. More importantly, we don't have any interest in trying to play a bubble with your money.

As for the reduction in small-cap equities, we have favored this asset category for the past 18 months on our expectation that US tax cuts and deregulation would disproportionately benefit these domestically levered companies. With small caps outperforming large caps by eight percentage points so far this year, another extreme reading relative to historical moves, we think that trend has played out. We are also a bit leery about the fact that small caps have become a perceived safe haven in the

## Growth-Stock Outperformance at Highest Level Since Dot-Com Era

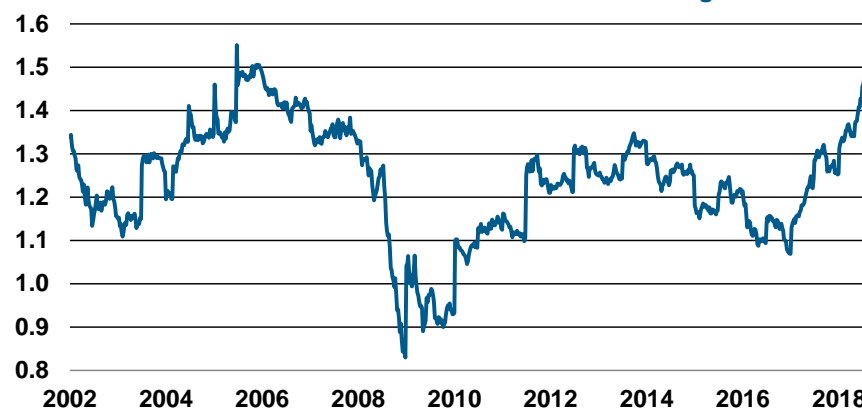
Russell 1000 Growth vs. Value Performance



Source: Bloomberg, Morgan Stanley & Co. Research as of July 13, 2018

## Valuation Spread Between Growth and Value Stocks One of the Highest in 17 Years

Russell 1000 Growth vs. Value Forward Price/Earnings Ratio



Source: Bloomberg, Morgan Stanley & Co. Research as of July 13, 2018

event of trade conflicts, and we think that perception may now be overpriced.

Finally, we want to stress that, if we are right and US large-cap growth stocks and small-cap stocks finally take their turn in the rolling bear market, we would view it as the final inning of the game we expected this year. Just remember that those last innings can bring a lot of

excitement and anguish, too, depending on which team you are rooting for. Our call is that growth will lose to value late in this game, but that there will be another game when this one's over. By that time, we very well might be rooting for a different team. ■

# Trade Risk: Believe the Hype

**MICHAEL D. ZEZAS, CFA**

Strategist  
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The Trump administration's trade policy is clear: An escalatory cycle of protectionist actions, not just rhetoric, has begun and will continue. It's another reason why pressure should continue in risk markets, which now must eat their policy vegetables after feasting on dessert.

Our "dessert before vegetables" thesis suggests that, as we entered 2018, markets were conditioned for unambiguously accommodative policy outcomes. A major, tax-driven fiscal stimulus had been just inked by an administration fond of pointing to the stock market as a scoreboard. Trade policy followed another scoreboard—bilateral deficits—making it possible for markets to envision a path away from the fundamental uncertainties of escalation and toward negotiation. A reduction in the US-China trade deficit could keep tariffs and other measures at bay, de-escalating the conflict without putting global growth at risk. US Treasury

Secretary Steven Mnuchin appeared to signal this outcome on May 20 by saying "we're putting the trade war on hold" following China's announcement that it intended to buy more US commodities.

**NO QUICK CONCESSIONS.** What happened next, though, showed that US rhetoric did not seek quick concessions but wanted to articulate a deeper disagreement. US officials said they would go forward with tariffs on \$50 billion of goods. China responded, and the US countered by proposing tariffs on another \$200 billion of goods (see chart). Meanwhile, the US allowed tariffs on steel and aluminum imports from the Euro Zone, Mexico and Canada to take effect. When these countries responded, the US began to prepare auto tariffs. This pattern of behavior shouldn't be ignored: The US and its key economic partners now view trade differently. One party's in-kind response is the other's escalation. This is what a vicious cycle looks like.

We think this dynamic puts pressure on risk assets:

**The duration of these conflicts should now be measured in quarters, not weeks.** Benign, negotiated outcomes may still be the endgame, but an extended cycle of escalation will allow the conflicts to play out in company financial statements and economic data.

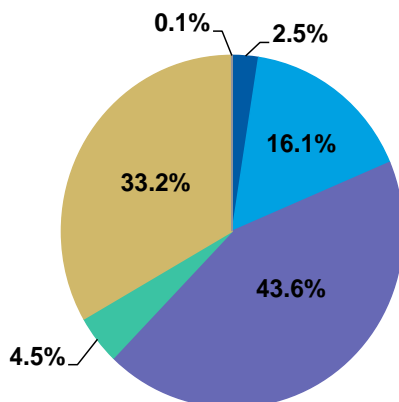
**Markets will discount multiple steps.** Focus on the cumulative and interacting developments of the next few rounds. Investors should expect both the auto tariffs and the second round of China tariffs to go forward.

**It doesn't have to be a material economic problem to be a market negative.** While announced actions fall far short of Smoot-Hawley trade barriers and being anti-growth, that doesn't mean they're not negative for markets or couldn't get worse. Trade conflicts can create headwinds to earnings, and hence valuations, without sparking a recession. Hard-to-define downsides from further escalation only heighten uncertainty.

**When it comes to policy, markets had their dessert before their vegetables.** At the start of the year, we think that markets were pricing in the positives of the US policy agenda, assuming that tax cuts and increased spending would add to GDP—Morgan Stanley estimated an additional 0.5 percentage points—while shrugging off trade risks as hypothetical. Today, the more complicated realities of the US agenda have come into sharper focus and risk offsetting the positives. Thus, even apparently minor trade actions could be market negatives.

**CHALLENGED MARKETS.** Of course, we must consider where we could be wrong. We may be underestimating the resolve of congressional Republican leaders, who generally support free trade, to take back some tariff power from the White House through legislation, though polls suggest division within the party on this issue. Hence, a near-term "circuit breaker" to trade escalation is more likely to come from the scoreboard—namely, more challenged and volatile markets. ■

## Proposed Tariffs on Chinese Goods Hit Capital Goods and Consumer Goods the Hardest



Food, Feeds and Beverages  
 Industrial Supplies and Materials  
 Capital Goods ex Automotive  
 Vehicles, Parts and Engines  
 Consumer Goods  
 Not Elsewhere Classified

Source: US Trade Representative as of June 2018

# Tariffs May Put Direct Investment at Risk

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The US' threat to place tariffs on as much as \$500 billion of imports worldwide represents less than 2% of the total goods traded, and reciprocal retaliatory tariffs would bring the total to a modest 4% of trade. The headline numbers make the risk seem relatively subdued, but the impact on corporate investment could meaningfully change the trajectory of the late-cycle economic recovery. Direct investment, a critical element of global growth, and large-cap market leaders may be more vulnerable to trade tensions than investors assume.

**SLIPPERY SLOPE.** Tariffs and retaliatory actions are a slippery slope. Discussion of historical trade disputes often evokes the 1930 Smoot-Hawley Act, which, rather than protect US industry, likely deepened the Great Depression. That might not be the right analogy just yet. Eight years before, the US had

imposed the more modest Fordney-McCumber Tariff that raised duties on agricultural products ostensibly to support American farmers. The move came after a steep decline in US exports following Europe's recovery from World War I. That tariff set off an avalanche of protectionist punches and counter-punches among trading partners, sowing mistrust ahead of the 1929 financial crisis, and turned the international community inward.

## TRADE AND INVESTMENT.

Protectionist measures slow the flow of goods around the world and introduce risk to sentiment or the "animal spirits" at the heart of real corporate investment. There are already signs that global trade is reacting. South Korean export growth has slowed and, on July 19, Taiwan reported that June monthly export orders had fallen 0.1% year over year—far short of the 7.5% growth the markets were expecting.

Since 1980, global investment has moved in conjunction with global trade growth (see chart). A 1% decline in trade

is associated with a 1.25% decline in investment. Since investment is critical to growth, protectionist moves could mark down global growth prospects.

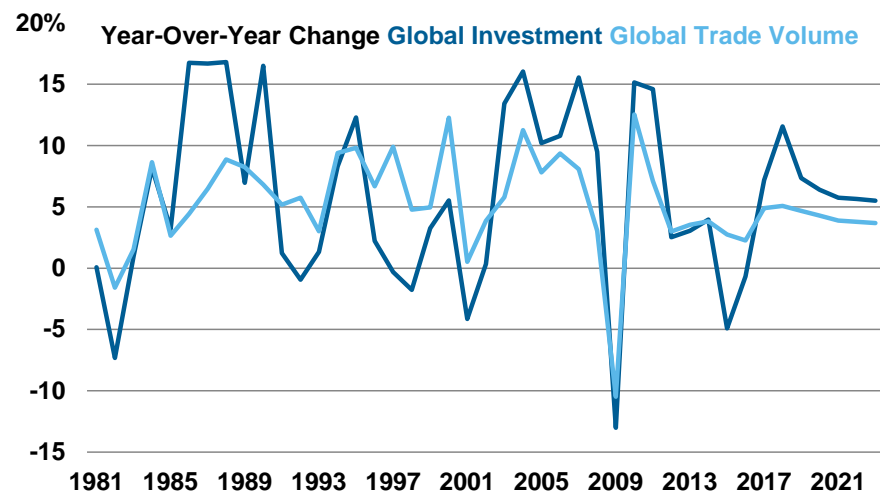
**MARKET REACTION.** Equity markets have reacted rationally to stepped-up trade risk. Companies face increased risk to both the revenue and cost lines of the income statement. Higher tariffs mean they likely sell fewer goods overseas or sell the same quantity at lower costs. Simultaneously, tariffs on intermediate goods necessary for production translate to higher costs. We explored total risk to revenue and costs combining S&P 500 companies' individual foreign revenue exposure with the ranking of sector supply-chain risk from MS & Co. Research, ranking each by their exposure to foreign trade. On days when negative trade news dominated headlines, those ranked higher (greater exposure) performed worse than those ranked lower—and vice versa on positive trade news. The market seems to have a reasonable grasp of companies at risk in an escalation of trade barriers.

**FOREIGN EXPOSURE.** The companies in the quintile most vulnerable to trade disruptions are also a disproportionately large part of the S&P 500's market cap. If the first quintile dropped 20% due to trade tensions, the overall index would lose 7%. Companies most vulnerable to protectionism also have profit margins that exceed the least vulnerable by more than 4%. At a time when investors are already worried about peak margins amid higher labor and commodity costs, this represents an additional risk to margin leaders.

Current trade policy may not be analogous to the 1930s. However, the interconnectedness of the global economy does mean that a negative feedback loop of tariff and retaliation can escalate quickly, with a meaningful impact on investment and markets. ■

*Also contributing to this article were Bryan Otero Gilmer and Sean A. O'Loughlin.*

## Global Investment Is Tied to the Pace of Global Trade



Source: Haver Analytics, IMF as of April 17, 2018

# Even With Trade Tensions, A Case for Industrials

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Back in October, we argued that the industrial sector, a lagging performer for the past 10 years, was poised for a secular rebound. Since then, the industrial sector has outperformed all the defensive sectors except for health care, but has been the worst among the cyclical sectors such as energy, financials, consumer discretionary and technology. Still, industrial stocks seem to have more fully discounted macro risks such as trade tariffs and rising commodity costs. Now, trading at a 15.3 price/earnings (P/E) times based on 2019 earnings, the sector's valuation looks compelling (see chart).

**MULTIPLE CONTRACTION.** To be sure, industrials face risks from trade. The companies often have supply chains that stretch the globe and sell their products internationally. Not surprisingly, management teams have provided detailed

guidance on how trade policy might impact them and how they might respond to additional tariffs. Even so, the sector's P/E has contracted about 20% from 2017's peak levels. As a result, industrials trade at the largest discount to their 2017 peak (excluding energy) and the lowest P/E (excluding financials). In other words, now that industrials' multiples have contracted the most, these stocks may see the strongest rebound if macro trade fears eventually dissipate.

**EARNINGS STORY.** Even with trade tensions, there is an earnings story here. Among the cyclical sectors, industrials have the highest consensus earnings growth for 2019 (see chart). While certainly more capital intensive than many sectors, many of these companies have economic moats that are just as wide as those of some technology companies. Earnings for the industrials have beat expectations so far this year, yet the P/E is

13% lower than tech and 22% lower than consumer discretionary. In downgrading tech stocks last month, Morgan Stanley & Co. US Equity Strategist Michael Wilson suggested that industrials have already been repriced by the rolling bear market and look tactically oversold.

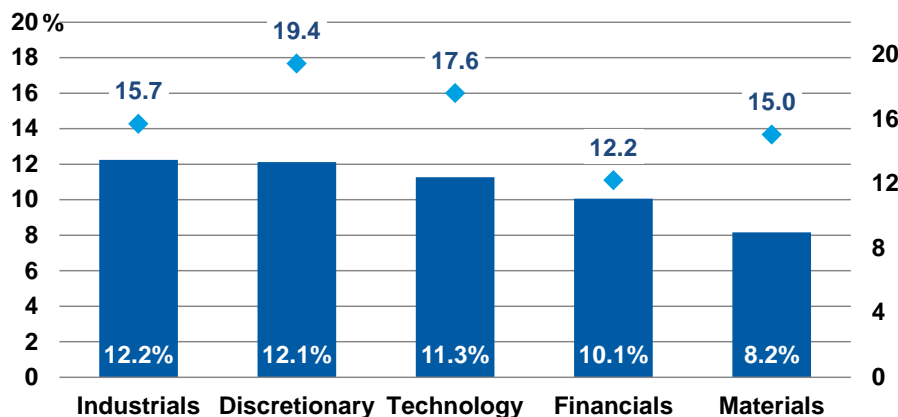
**RECESSION CONCERNS.** Perhaps one reason for lower P/Es is that investors are concerned about a recession and what that might do to industrials—but macro indicators are not yet raising the recession alarm. ISM surveys remain over 50, which is expansion territory; consumer sentiment remains high; unemployment claims are at a 60-year low; and second-quarter GDP, at 4.1%, was the strongest since 2014. True, the yield curve is flattening, but there is reason to question that signal (see page 8). If we consider this industrial cycle to have started in 2016 after a global industrial recession, the cycle is still young. If this cycle lasts until 2020, industrials will likely rerate higher.

**BACK DOOR TO TECH.** Within industrials, we prefer companies that are undergoing technological transformations. As tech permeates every industry, the strongest growth is in companies with competitive advantages, economies of scale and leading market share. These companies often offer a cheaper way to invest in tech trends. We particularly like trucking, where autonomous trucks and routing software could cut costs and lead to industry consolidation.

Hand tools are another bright spot. Strong brands have pricing power that has enabled them to pass along higher commodity costs while their research and development programs lead to innovations that support further pricing power. In defense, the rising defense budget supports top-line growth, and a new focus on space, missiles, and autonomous drones creates opportunities. Finally, in aerospace, there's a long order book and a new generation of turbofan engines, providing ample opportunity for these companies to shine. ■

## Industrials Show High Expected Earnings-Growth Forecast and a Modest Price/Earnings Ratio

Earnings-Per-Share Growth (left axis) Price/Earnings Ratio (right axis)



Note: Based on 2019 consensus estimates for earnings per share.  
Source: Bloomberg as of July 26, 2018

# How Sub-Styles Can Help With Equity Allocation

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Investors have long been exposed to ubiquitous investment “style buckets,” including value, core and growth, to help differentiate among equity mutual funds and separately managed accounts (SMAs). While investment style assignments are helpful, they don’t provide a complete picture of a mutual fund or an SMA’s characteristics and risks. That’s why we also look to sub-styles.

Last month, the Global Investment Committee (GIC) turned more defensive in its positioning, reducing allocations to the US large-cap growth stocks, among other changes. Still, large-cap growth is a broad category, and not all the funds behave the same way. That’s where an understanding of sub-styles can help.

**PERFORMANCE VARIATION.** Similar to style buckets, sub-styles also come in and out of favor (see table). In fact, variation in returns across sub-styles sometimes may be 5% or more in any given year. For example, in the year ending June 30, 2018,

large-cap growth SMAs classified as aggressive growth returned, on average, 25.0% (gross of fees and expenses) and ranked in the 22nd percentile of the PSN Large Cap Growth Universe, which tracks SMAs. In contrast, those classified as conservative growth returned 20.4% (gross of fees and expenses) and ranked in the 57th percentile. This dispersion in performance was primarily driven by higher-beta, higher-momentum and higher-growth stocks—all characteristics of the aggressive growth sub-style.

**AGGRESSIVE GROWTH.** Aggressive growth strategies are generally more positively correlated to the rate of change in earnings growth. These managers tend to seek companies with higher earnings-growth prospects, and generally have greater exposure to momentum. Furthermore, aggressive growth managers may demonstrate a greater willingness to invest in more speculative companies, as well as companies with the potential to succeed from the development of disruptive and/or transformational products or services. As a result, these strategies tend to be more volatile and

more sensitive to moves in the broader market, including capturing more of the upside—and the downside.

**CONSERVATIVE GROWTH.** Conversely, conservative growth managers generally are more sensitive to valuation, focusing on companies that usually have longer earnings histories, and greater visibility and perceived sustainability in earnings. These portfolios may exhibit lower valuation levels and less exposure to the more speculative and highest-growth companies. These types of characteristics generally result in performance that reflects less market sensitivity and lower volatility than the benchmark Russell 1000 Growth Index. These managers tend to outperform in risk-off periods, such as in 2008 and 2011, or during periods favorable to stocks with lower valuations and volatility, like the first half of 2016 when conservative growth managers ranked in the top quartile relative to peers. Not surprisingly, conservative growth managers have had a tendency to underperform during much of the bull market that favored companies with high earnings-growth rates. Lastly, these strategies tend to overweight more secular sectors and industry groups such as consumer staples and health care.

**TRADITIONAL GROWTH.** Finally, traditional growth managers invest in companies with diverse growth profiles—generally in a blended approach—but at times can exhibit characteristics of aggressive growth or conservative growth managers. Earnings growth and valuation tend to be closer to the benchmark, and so does their respective performance.

Given that the GIC suggests that investors become more defensive in US equities and neutralize momentum and high-growth exposures within their portfolios, conservative growth strategies should be a good fit for their growth-equity allocations. ■

## Attributes of Growth Sub-Styles

<b>Aggressive Growth</b>	<ul style="list-style-type: none"> <li>Higher earnings-per-share growth</li> <li>Generally more volatile</li> <li>Typically cyclically positioned; overweights to technology and consumer discretionary</li> </ul>	<ul style="list-style-type: none"> <li>Higher price/earnings multiples</li> <li>Generally higher beta</li> </ul>
<b>Traditional Growth</b>	<ul style="list-style-type: none"> <li>Earnings-per-share growth and price/earnings multiples more aligned with benchmark</li> <li>Volatility and beta generally more aligned with benchmark</li> </ul>	
<b>Conservative Growth</b>	<ul style="list-style-type: none"> <li>Lower earnings-per-share growth</li> <li>Generally less volatile</li> <li>Typically secularly positioned; overweights to consumer staples and health care</li> </ul>	<ul style="list-style-type: none"> <li>More valuation sensitive</li> <li>Generally lower beta</li> </ul>

Source: Morgan Stanley Wealth Management GIMA

# Inflation Risks Are Alive and Well

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Head of Investment & Portfolio Strategies  
Morgan Stanley Wealth Management

One of our key investment themes for 2018 has been the recognition of a regime shift from the secular stagnation of the past decade, which featured low growth, low rates, low inflation, low volatility and monetary policy driven by Quantitative Easing. The resumption of an aggressive fiscal policy in the US, alongside tightening by the Federal Reserve, would, we argued, usher in a period of normalization for the business cycle and capital markets, characterized by higher growth, higher interest rates and lower price/earnings multiples.

While the stock market has thus far mostly hewed to forecast, still hovering close to the Global Investment Committee's 2,750 target for the S&P 500, the reflationary impulse in US Treasury yields has proven fleeting. After peaking in May at 3.11%, the benchmark 10-year Treasury yield has fallen back to 2.96%.

Real yields, as measured by 10-year TIPS, have fallen roughly 10 basis points to 0.83%, with declining inflation expectations accounting for the remainder of the correction. With the 10-year inflation breakeven rate at about 2.13%, investors are looking past the current data, on the assumption that it will prove to be fleeting.

**CHALLENGING THE CONSENSUS.** The Treasury market's consensus view seems to be that global growth is slowing and that the Fed will slow the pace of hikes, making recent inflation irrelevant. Weaker commodity prices would appear to carry weight in this regard, but fresh data suggest price increases are accelerating. The June Producer Price Index (PPI) rose faster than expected, at 0.3%, with an overall year-over-year reading of 2.8%, which is in excess of the Fed's inflation target of 2.0%. Importantly, the index is being paced by manufactured goods, which have seen prices rising for six straight months. This defies the logic of

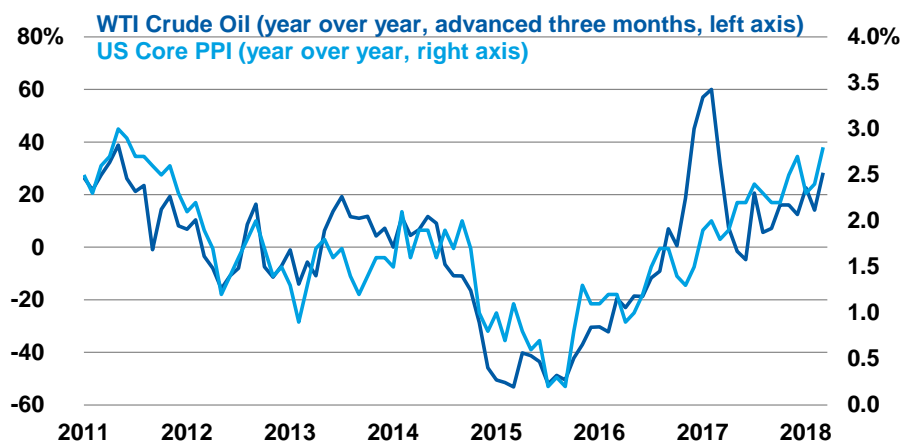
the past decade that claimed systemic deflationary forces from global supply chains would contain goods inflation.

Consumer prices showed similar strength, with the year-over-year headline reading at 2.9% and the core rate at 2.3%. The Personal Consumption Expenditure Index, the Fed's preferred inflation gauge, is hovering at 2%, with forecasts suggesting it, too, may breach the key threshold. More importantly, the New York Federal Reserve's Underlying Inflation Gauge is running at 3.33%. The data paint a picture of pricing pressures even before the impact of trade tariffs and sanctions, meaning the upward trend in inflation could get worse. Why, then, is the bond market complacent? One reason may be consensus thinking, which suggests inflation will peak in the third quarter. Are there things the bond market is missing?

**HIGHER OIL PRICES.** The first factor that bond investors may be misjudging is the chances that oil prices will remain high, spilling into supply-chain pressures and keeping the PPI on a higher trend. For instance, year-over-year changes in crude prices tend to lead annual changes in core PPI by three months (see chart). While current prices at around \$70 per barrel have retreated from their recent highs of about \$75, oil stands almost 45% higher than a year ago.

Morgan Stanley & Co. Global Oil Strategist Martijn Rats sees upward momentum, forecasting Brent crude to end 2018 at \$85 and West Texas Intermediate crude at \$79. His thesis is premised on "an unusually large number of supply risks, including those coming from Venezuela, Iran and Libya." The agreement by OPEC members to increase production only eliminated some of the world's spare capacity, leaving all supply pressure on the US Permian Basin. The problem, Rats points out, is that US shale growth, which has been impressive, faces severe constraints due to infrastructure bottlenecks, which are unlikely to be

## Inflation Pressures Like to Follow Oil Prices



Source: Bloomberg, Haver Analytics as of June 30, 2018

alleviated until 2020. With 98% of current pipeline capacity utilized, additional shale production will require higher-cost truck and rail shipment. With inventories already low, Rats believes the oil market will remain undersupplied through 2019.

**WAGE PRESSURE.** In addition to downplaying the risk of higher oil prices, the Treasury market has cheered the benign growth in wages as evidence of slack in the economy and lack of inflationary pressure. While we admit to being surprised at the sluggish pace of wage gains and have heard the arguments as to why the classic Phillips Curve, which describes the inverse relationship between the level of unemployment and inflation, is broken, our data point to a tightening labor market. Furthermore, there is growing analytic evidence that we are reaching key inflection points. Hedgeye Risk Management, an independent researcher, noted that the difference between U-3 unemployment, the more commonly quoted statistic, and U-6 unemployment,

which includes those who have stopped looking for work or are at part-time jobs seeking full employment, is at a critical juncture, projecting a jump in wages. In the past two cycles in which this metric narrowed below 3.7%, wage growth accelerated strongly, rising above 3% annually. We are just about there.

The last element is the impact of Washington policy. Clearly, the bond market is focused on the potential of tariffs eating into economic growth: the yield curve has flattened by some 13 basis points in the past eight weeks as the rhetoric intensified. Much has already been written about the pricing impact of a trade conflict, and we are beginning to hear mention of it in the soft survey data coming out of the regional Federal Reserve Banks. The latest salvo of another \$200 billion of Chinese goods being targeted only adds to the anxiety for products with globally integrated supply chains. Then there is the jump in deficit-financed government spending, which is beginning to raise the cost of corporate credit. Equally important are the

implications of the administration's effort to roll back the Affordable Care Act: After near-zero health care inflation in 2017, the medical care, hospital services and physicians services components of CPI have accelerated from monthly growth to 0.48% in June from 0.17% in April and an annual pace of 2.5%.

**RISKS NOT DISCOUNTED.** All told, we believe that inflation remains a risk at this point in the cycle and think that the bond market is complacent. Slowing growth alone does not rule out a stagflation scenario—one in which the Fed would have to respond. The risks of rising oil prices, wages moving higher with the tighter labor market and inflationary Washington policies do not appear to be discounted. Watch the 10-year inflation breakeven rate for evidence that nominal Treasury rates are heading higher. We would also avoid the temptation to add long-term bonds to portfolios, sticking to short-duration bonds, cash and long/short hedge funds. ■

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ON THE MARKETS / STRATEGY

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## What Is the Yield Curve Telling Us?

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Morgan Stanley Wealth Management*

Economists and investors have commonly focused on the two-year/10-year US Treasury yield curve because it captures the near-term outlook for growth and inflation as reflected by Fed policy, as well as longer-run forecasts. When the difference between the two-year and 10-year approaches zero, the curve is considered “flat” and, when it’s

negative—that is, short rates are higher than long rates—it’s “inverted.”

Historically, when the curve was flattened or inverted, the US economy was within a year of a recession and the US stock market was within six to nine months of a cyclical peak. What’s raising concern for investors now is rapid flattening of the curve to 30 basis points today from 78 basis points in February.

**CREDIT AVAILABILITY.** The spread is typically seen as a sign of credit availability. The more positive the spread,

the more likely that banks will make loans and the more the willingness of capital allocators to borrow and invest—and vice versa. Yet, even with a relatively flat curve, credit growth is still expansionary. Is it possible, given this cycle’s uniqueness—in particular, Quantitative Easing (QE) by the Federal Reserve—that the yield curve’s signals are not relevant?

A recent paper published by Fed economists Eric Engstrom and Steven Sharpe argues that the long end of the curve has been distorted by factors such as global QE and an aging global cohort that is increasingly dependent on fixed retirement payments. As an alternative, they propose looking differently at shorter rates and expectations about the economy as a signal for how credit growth will evolve. Their metric takes the difference between the current yield on three-month T-bills and the implied rate on T-bills 18 months forward (see chart, page 9).

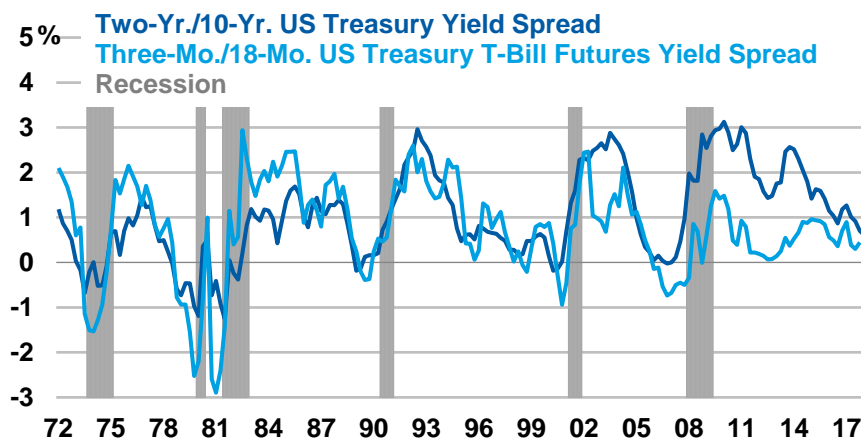


**DIRECTIONALLY SIMILAR.** This alternative metric typically is directionally similar to the traditional two-year/10-year gauge. However, there are times the directions are different, and now is one of them. The dramatic flattening in the traditional yield curve is not mimicked here. To the contrary, the new indicator is flat to upward sloping, a condition that has persisted for the past two years. This points to future economic strength. While the two-year/10-year curve suggests that risk of recession is more than 20%, the new metric says the risk of recession is falling.

A second factor impacting the reliability of the traditional yield curve as an indicator is the behavior of the term premium, which is a part of the yield on long-term bonds above and beyond real growth and inflation expectations that pays investors for the added uncertainty of future risks. The term premium is historically quite positive, and has been as high as 5% in the early 1980s. It went negative in 2014—for the first time in more than 50 years—during the peak in QE by all major central banks, and it has never recovered.

**NEGATIVE TERM PREMIUM.** The fact that this term premium remains negative supports the view that long-term bond yields are completely distorted and not a reliable reading of the market's view of the future. In large part, this absence of a term premium could be because a large

## New Yield Curve Metric Tells a Different Story



Source: Engstrom, Eric, and Steven Sharpe (2018). "Don't Fear) The Yield Curve," FEDS Notes. Washington: Board of Governors of the Federal Reserve System as of June 28, 2018, <https://doi.org/10.17016/2380-7172.2212>

part of Treasury issuance is held by global central banks and pension plans. Such investors are motivated by factors other than economic signals, which reduce the potency of the yield curve to predict recessions.

A final reason why the two-year/10-year curve may not read the economy correctly is because much of recent credit growth is in the capital markets, not the banking system. One of the consequences of the financial crisis is that, as the banks were deleveraging, their corporate customers turned to the bond market. Today, investment grade debt sits at nearly \$6.4 trillion, more than twice the size of the market prior to the financial crisis. One implication of this development is that the

behavior of credit spreads may be a better gauge of recession risk than the yield curve. On this score, spreads have widened off their lows of the cycle. However, by and large, in both the investment grade and high yield markets, the repricing has been gradual and well behaved.

All told, we are not convinced that the flattening of the two-year/10-year Treasury yield curve is as predictive of the next recession as it has historically been. Instead, watch credit spreads and the three-month/18-month T-bill futures yield curve to start flattening from a current steep position. In this alternative view, the signs of recession risk appear minimal. ■

# Automation in the 21st Century

## SCOTT HELFSTEIN, PhD

Senior Investment Strategist  
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Automation, long used to supplant or support physical activities, has turned to cognitive actions as well. With this piece, our goal is to provide clearly defined narratives to help understand how the future might unfold. We believe this is essential to developing actionable investment strategies. These are a few of our favored ideas.

### ARTIFICIAL INTELLIGENCE.

Automation of cognitive tasks opens a new frontier in business. Commonly referred to as AI, artificial intelligence complex algorithms identify trends or draw conclusions based on large datasets that allow businesses to greatly improve efficiency and margins. Technological improvement has exponentially lowered the costs of automation (see chart).

Upstream firms providing the raw material such as data owners, data structurers and processing power providers benefit most. Algorithm owners should see their market expand rapidly. Cognitive technology will be increasingly integrated with robotics for more complex tasks. Finally, first movers stand to benefit from the new technology.

### DISRUPTING DEMOGRAPHIC DESTINY.

Should automation transform global business operations, the impact on emerging and frontier markets could be significant. An influential theory developed in the 1950s holds that emerging markets should leverage low-cost labor, their most abundant resource, to industrialize. Countries with favorable demographics, specifically higher population growth, could manufacture and export efficiently given the supply of cheap workers. If automation improves business operations and reduces the need

for low-cost labor, countries with abundant workers are more likely to face civil unrest than economic growth. Instead, focusing on countries with the resources and the will to spend on education and health care should yield higher returns.

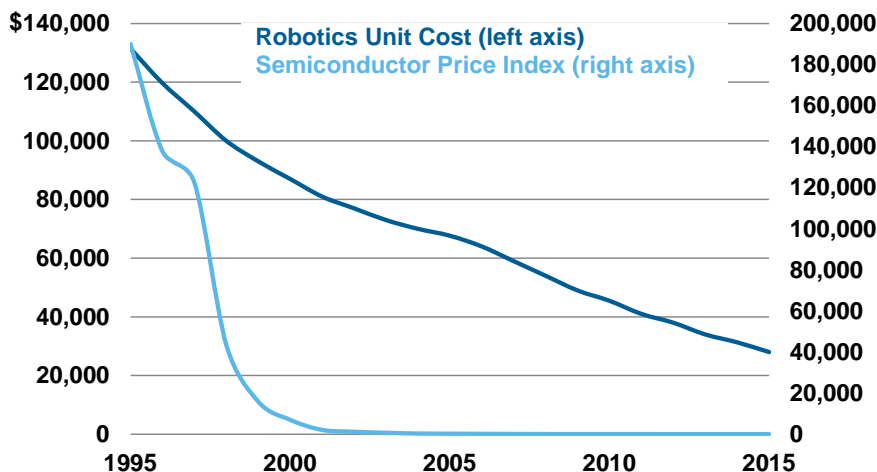
**DOW TRANSPORTS 2050.** The transportation industry faces the triple threat of sharing, electrification and automation. The combination of sharing and autonomy could lead to a major business-model shift away from autos as product to autos as service. New driver-assist technologies will rely on sensors and microprocessors, effectively turning cars into computers. Whether or not cars wind up fully autonomous, this provides opportunity for investors. Shipping also stands to benefit early in the transformation as commercial firms should be able to integrate cost-saving automation rapidly. Building the infrastructure to support a shared electric autonomous fleet will be critical to success, but it is subject to the classic chicken-and-egg dilemma.

### MULTITASKING LEISURE.

Technological and social change is creating unique opportunities in leisure activities. As automation makes work more efficient, it will help increase free time. Additionally, people increasingly consume many leisure activities simultaneously, such as posting vacation pictures on social media or checking news feeds while watching TV. Leisure should grow rapidly with increased free time, but activities that are easily multitasked should grow fastest. By contrast, activities like virtual reality or e-sports (competitive video game playing) that require more attention should be able to maintain high margins as customer attention grows more valuable to content providers. ■

*Our full report, "Automation—AI, VR, AV and DDD," is in the June 14 issue of AlphaCurrents, a new publication on thematic investing.*

## Exponential Decline in Cost of Automation Components



Note: Robotics unit cost refers to robots for industrial applications as calculated by ARK Investments. Value is stated in 2015 dollars. Semiconductor price index is for semiconductors and related-device manufacturing from the Federal Reserve Bank of St. Louis and the US Bureau of Labor Statistics.

Source: St. Louis Federal Reserve Bank, ARK Investments, Morgan Stanley Wealth Management as of May 31, 2018

# Residential MBS Offer a Tactical Opportunity, Too

## SUZANNE LINDQUIST

Senior Fixed Income Strategist  
Morgan Stanley Wealth Management

## DAREN BIELAWSKI, CFA

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Residential mortgage-backed securities (MBS) have weathered several headwinds this year. In addition to increased market volatility, the run-off of the Federal Reserve's balance sheet has also been front and center. The Bloomberg Barclays Agency MBS Fixed Rate Index has had mixed results, with lower-coupon bonds underperforming higher coupons as the market priced in higher interest rates and a slowdown in prepayments. Agency MBS have slightly underperformed Treasuries this year, but they have significantly outperformed investment grade corporate bonds. Nonagency MBS have also outperformed corporates.

**PORTFOLIO DIVERSIFIER.** We find benefits in owning mortgages in a diversified portfolio throughout the cycle because of their liquidity, positive long-

term housing market fundamentals and demographic trends. While these factors remain in place, we believe that residential MBS are increasingly attractive as a more tactical allocation. Several factors drive this view, including the current level of interest rates and valuations.

After reaching lows around 3.3% for a 30-year fixed-rate mortgage in 2012, mortgage rates have recently risen above 4.5%. At these levels, the incentive for homeowners to refinance is much reduced as borrowers would enter a new loan at a more expensive rate than the existing loan. Not surprisingly, refinancing activity is at cycle lows, according to the MBA Refinance Index. The market has priced this slowdown in prepayments into lower-coupon securities, which are generally trading at a discount to par; approximately 65% of the MBS index' securities now trade below par, compared with less than 1% this past September (see chart). At these prices, the downside of further interest rate increases and prepayment

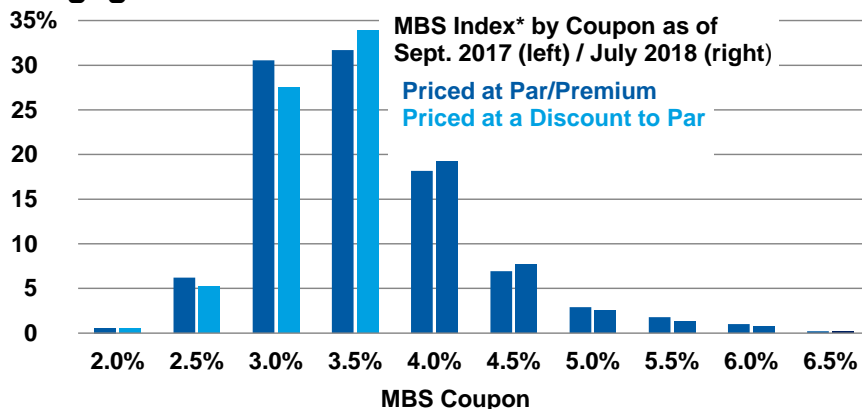
reductions is minimal. On the other hand, if housing turnover and refinancing activity increases, the relative total return may be enhanced as the bonds reprice closer to par.

**SIMILAR TO CORPORATES.** Priced at a discount, these MBS become more directly comparable to corporate bonds as the likelihood of further duration extension is low. While 10-year AA-rated corporates are trading at a spread of 65 basis points to Treasuries, agency mortgages that have similar maturity profiles and are priced at a discount are trading at 50 basis points relative to Treasuries. These valuations become more attractive on a total-return basis given the potential for the mortgages to more quickly move to par. Considering the more liquid, higher-quality and secured nature of mortgages, especially given increasing concerns around the size of the corporate bond markets and rising corporate leverage, MBS appear attractive on relative-return prospects.

**MANAGING MORTGAGES.** We believe investors are best able to exploit opportunities across the large and idiosyncratic mortgage market through active managers who have the expertise to perform due diligence on each underlying mortgage pool. Skilled managers are better able to identify MBS with favorable prepayment possibilities and cash-flow potential by analyzing them based on current price, vintage year, loan size and geographic concentration.

Managers may also focus on seasoned, high-coupon bonds that have endured several interest rate cycles and may be unlikely to prepay in the current environment; these can provide increased income as well as a slower rate of amortization to par. Managers can also access the nonagency mortgage sector. While cash flows are not guaranteed by one of the quasi-government entities, these securities have historically had low default rates and are priced at a discount, which minimizes the downside of further increases in interest rates. ■

## Due to Higher Interest Rates, Nearly Two-Thirds of the Mortgage Index Now Trade Below Par



\*Bloomberg Barclays Agency MBS Fixed Rate Index  
Source: Bloomberg Barclays Index Services Limited as of July 24, 2018

# Simplifying MLPs for Better Growth

**J**eff Jorgensen, portfolio manager and director of research for the Energy Infrastructure Equities Team at Brookfield Management, hasn't had it easy for the past few years. Not only are master limited partnerships (MLPs), his specialty, more complicated to explain than most investments, but also returns have seesawed between positive and negative.

MLPs typically own and operate energy infrastructure assets, which include pipelines, storage and processing facilities for crude oil, natural gas and associated hydrocarbon products. Many independent midstream businesses have used this partnership structure to avoid corporate taxation and allow distributions to pass through to unitholders, generally in a tax-advantaged way. Though the structure worked for a low-growth energy business, it struggled to raise enough capital to keep up with the shale-oil boom. More recently, some midstream companies scrapped the MLP model and reorganized as publicly traded C-corporations, which are subject to corporate taxation and, because of their less-complicated tax situation, also appeal to a wider investor base. These moves alleviate the need to keep issuing equity to finance growth.

Jorgensen recently shared his views with Vijay Chandar, a market strategist for Morgan Stanley Wealth Management. The following is an edited version of their conversation.

**VIJAY CHANDAR (VC):** What are your current views on MLPs?

**JEFF JORGENSEN (JJ):** We've seen quite a bit of volatility in this sector for the last two and a half years. The assets are performing well, and the fundamental

story is phenomenal—but all that is being offset by structural evolution of the sector. We've got an industry that's in transition, moving from one that constantly needs new equity to one that's self-funding, either in a simplified MLP or C-corp.

While I don't study other asset classes as much as I study MLPs and midstream equities, I don't know of many others that are growing operating cash flow by 25% year over year. How is that the case? Because of record shale-oil production, record natural-gas production, record natural-gas liquids production, record exports of all those commodities and record demand here and abroad for all those commodities. Pipes and terminals and storage are bursting at the seams. We don't have enough of them—and we don't have enough export facilities, either.

In the meantime, there have been reductions in distributions to the limited partners. There have been also been simplification transactions [to reorganize the ownership] that are hard to understand.

I recently went to a breakfast and some of the attendees didn't know much about MLPs. They said, "What's an incentive distribution right?" (Editor's note: An incentive distribution right (IDR) is a feature of MLPs that encourages general partners to increase distributions to the limited partners, the unitholders, by giving them more of the incremental cash flow). After five minutes talking about them, I realized why this asset class has kept people on the sidelines. The fact that I have to explain this weird little thing that is present in only this one little asset class makes it almost not worth the headache to a number of investors.

Now, little niche things that used to define the asset class are kind of going the way, and there's a simplification process going on.

**VC:** How might these simplifications impact MLPs?

**JJ:** In order to grow, MLPs have to issue equity. Well, they've issued lots and lots of equity as we repiped the entire US and positioned the US to be the energy powerhouse of the world. That overwhelmed the structure; it overwhelmed the pockets of capital that were available out there to fund the equity portion of growth. It's been a long cycle of investment and of capital deployment to build these organic growth projects. That whole process has necessitated a rethinking of the way that this industry raises money on a sustainable basis.

The scale and maturity of this asset class means it needs to be put into a mature, investable form and structure that attracts new eyeballs—where we don't spend five minutes talking about IDRs while everyone nods off.

**VC:** How would you quantify what went wrong over the past few years and why you're confident going forward?

**JJ:** Why were MLPs struggling to keep up when crude prices rallied? Why did MLPs sell off in the first place? I think a couple things went wrong. One, the financing model. Equity issuance is a positive feedback loop on the way up and it's a negative feedback loop on the way down: Stock prices beget stock prices, which beget growth, which beget accretion, which beget distribution growth—which attracted more capital. Then all that started to unwind, when the MLPs could no longer fund their businesses. When they were able to do so, their cost of capital was higher and growth was lower—and it kept going down.

That's the problem with being serial equity issuers, and the problem with the financing model having to externally finance everything that they're doing—but I think we've gotten through a lot of that,

and I think with the simplifications we're on our way to having a better outcome and to being more sustainable and less volatile.

**VC:** We all saw the pitch for the American energy revolution, the shale revolution—and all the money that subsequently came into the sector. Can you talk more about that dynamic in terms of the equity raises?

**VC:** With the old financing model, think about MLPs or pipelines similar to utility companies. For every \$1 a traditional utility company takes in, it will pay out about \$0.60 to shareholders, retain \$0.40 to fund capital expenditures, and then they'll go out and raise \$0.30 in debt. So they're spending \$1.30, but they're retaining more capital. What the MLPs were doing was they took in \$1, paid out \$0.80 or \$0.90, only kept \$0.10 to retain to invest—and relied mostly on selling equity in order to grow.

**JJ:** When MLPs were set up in the early 2000s, these were like little family businesses: I'm going to give you all my cash, it'll be tax advantaged and, when I want to acquire more assets, I'll come to you and I'll say, "Hey, I need some cash. Here's the deal—can I sell you some equity?" You say, "Sure, that's great, here's some cash for the equity."

That old model, which you described, works for \$5 billion and \$10 billion deals, but the midstream industry raised \$46 billion of capital in the equity market last year. Because there is this tremendous growth opportunity, the sheer scale of what they were doing necessitated a move from your illustrative numbers back to something more sustainable, with the MLPs retaining more of the capital rather than growing by continuously raising equity.

**JJ:** I think what's interesting is, first, I alluded to what this business model could sustain and how it was originally designed. Keep in mind this was not always a world

where there were organic growth opportunities. MLPs were originally being set up in the pre-shale world, and here you are, today, and you can issue \$6 billion, \$9 billion—and it's no problem.

But if you're the world's energy powerhouse, and you've got to repipe the whole US and you designed a business model in which half of the capital has to come from equity—that would be a lot of dough to raise in the external capital markets, and the fund flows won't necessarily be there to meet that, because all you're relying on is the folks who follow MLPs. Throw in the impact that commodity price volatility can have in reducing flows, and you've got a real problem.

No one's going to turn away from financing that growth. These are awesome projects, and they're going to create long-term benefits to unit holders and shareholders alike—but because of higher financing costs, they won't pay as much.

In 2017, there was \$46 billion in midstream equity issuance. Now the trend is toward self-funding, which means no equity issuance. A lot of the major, highest-quality companies have gone this way, and now you've got record cash flow, hopefully record flows, a more mature asset class with no IDRs and barely any equity, a lot of capital that's been spent, and accreting benefit to the equity unitholders.

**VC:** So one reason the market has lagged is because you've had issuance with absolutely no retail investor participation. So, if issuance goes down, it's not going to take a whole lot of money coming into the sector to see a turnaround. On the opposite end of the spectrum, can you share how institutional interest has looked in recent months?

**JJ:** Institutional interest is undoubtedly there. I went to a forum on real assets back in February. The institutional investors in

the room were asked the survey question, "What real asset class are you most interested in? Why are you here?" Two-thirds of the respondents said midstream companies and MLPs. So I think the interest is there, the homework is being done, and if you could get this asset class owned more institutionally I think that's another catalyst for potential outperformance.

**VC:** Is there anything you're holding your breath for as far as downside risk?

**JJ:** I'd like to say we're out of the woods on crude-oil prices, but OPEC may choose to raise oil production. The OPEC chatter tends to move the market. My view is that this successful thing that they've done—which is barely cut production while seeing a 50% increase in the revenue per barrel that they're generating for their economy—is something they won't want to mess with. So I don't think they'll disrupt that too much.

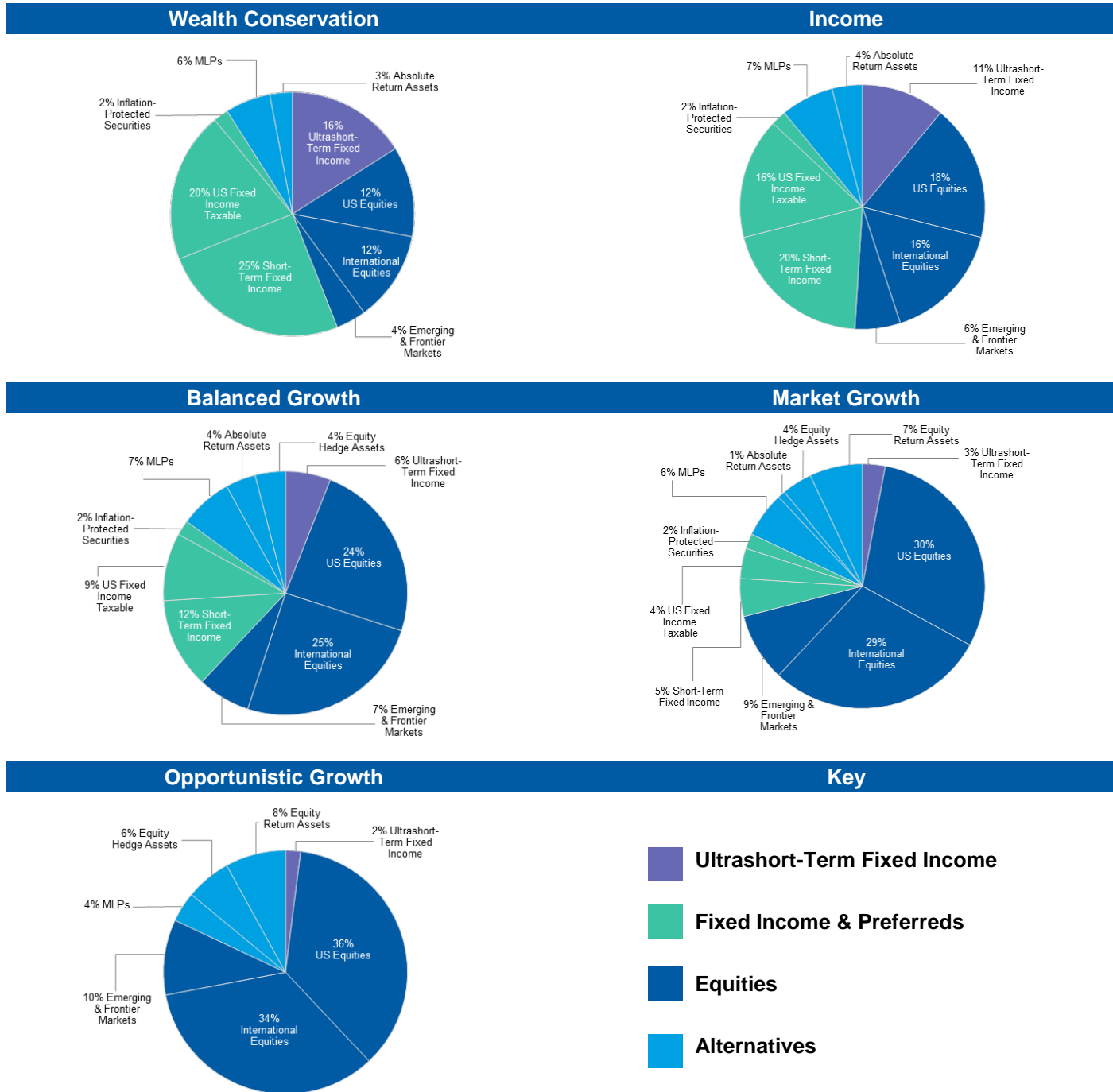
There also are some intricacies on the regional dynamics: The Permian Basin is backed up; it does not have enough pipeline capacity.

Then the last thing I'd say is, as these simplifications play out, I really hope that there's not too much value transfer away from the MLPs and into the general partners and the sponsors. With these simplifications, when you're a limited partner, you are not in control. A limited partner doesn't have many rights. However, we can invest in structures that eliminate a lot of that risk. ■

*Jeff Jorgensen 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

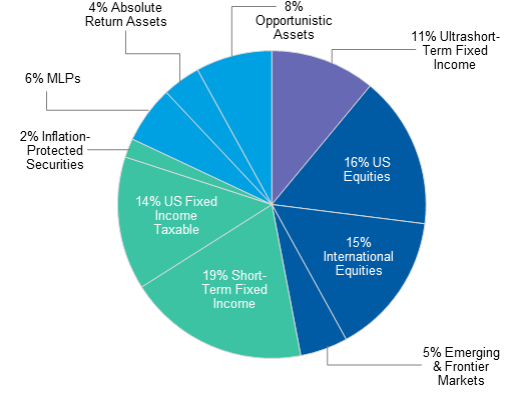
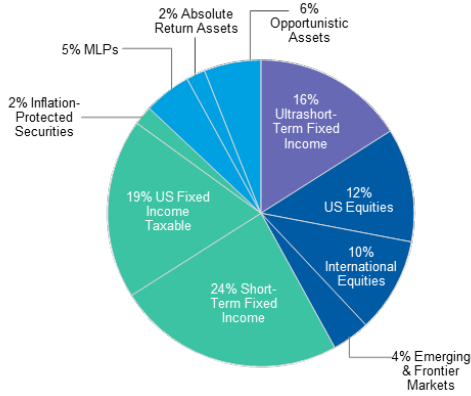
The Global Investment Committee provides guidance on asset allocation decisions through its various models. The five models below are recommended for investors with up to \$25 million in investable assets. They are based on an increasing scale of risk (expected volatility) and expected return.



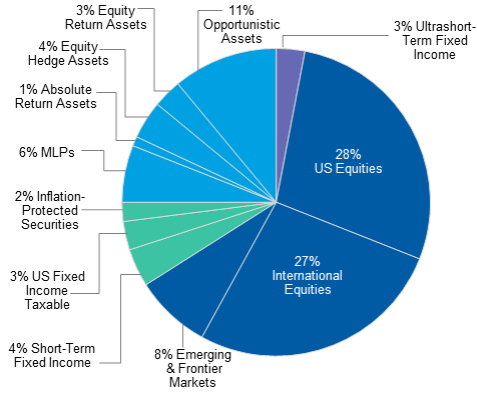
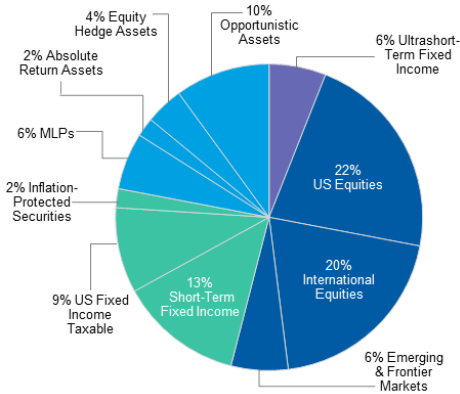
Source: Morgan Stanley Wealth Management GIC as of July 31, 2018

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.

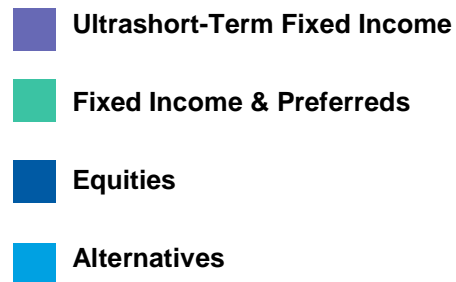
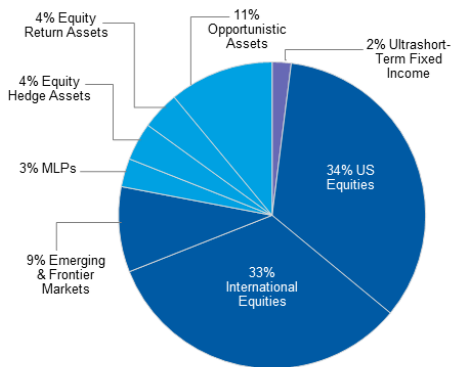
**Wealth Conservation** **Income**



**Balanced Growth** **Market Growth**



**Opportunistic Growth** **Key**



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

**\*For more about the risks to Master Limited Partnerships (MLPs) and Duration, please see the Risk Considerations section beginning on page 17 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.

This material is not a solicitation or recommendation to buy or sell, or an endorsement of, any security or other financial instrument including, without limitation, virtual currency products or to participate in any trading strategy related to them. Virtual currency and securities listed and/or over the counter derivatives or other financial instruments that derive their value from, have a price linkage to, have exposure to or result in a payment or distribution of virtual currency, are not currently available for custody, distribution, settlement, purchase or sale at or through Morgan Stanley Smith Barney LLC ("Morgan Stanley"). This is due to, among other factors, the potential high risk and volatility of virtual currency products and the fact that virtual currency remains an experimental concept that is not presently regulated or backed by any central bank worldwide and has no tangible intrinsic value.

This material has been prepared for informational purposes only, based on publicly available factual information. It does not provide individually tailored or general investment advice whatsoever. It has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. Investors seeking to evaluate particular investments and strategies in virtual currency products must seek the advice of their independent advisors. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives.

### 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.

Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank.

### 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.

**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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