

On the Markets



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Staying One Step Ahead

Unfortunately, 2018 could not have been more different from 2017. I say unfortunately because 2017 was perhaps one of the best years investors have ever experienced in terms of absolute returns, the breadth of those returns and the low levels of volatility in achieving those returns. It was quite a profitable year with little angst. In contrast, 2018 was one of the rockiest years for equity investors since the financial crisis, with every region and most stocks delivering negative returns. The table below illustrates the dramatic contrast between 2017 and 2018 equity returns by region and sector. While 2018 wasn't nearly as bad on the downside as 2017 was good on the upside, it was an unprofitable and difficult year for most.

Perhaps even more concerning—it wasn't just equities that suffered in 2018. Bonds and alternative investments fared poorly, too, which means asset allocation failed to balance out the losses with some gains. This is unusual, as can be seen from the historical data (see table, page 2.) Even in 2008, which many people remember as the

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Global Economic Expansion Delivered Strong Returns

		2017 & 2018 Total Return (% in US dollars)									
		S&P 500		MSCI All Country World		MSCI Emerging Markets		MSCI Japan		MSCI Europe	
		2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
	Discretionary	23.0	0.8	25.7	-8.0	40.4	-32.4	21.9	-11.6	25.5	-17.9
	Staples	13.5	-8.4	18.5	-9.9	25.8	-13.4	25.7	0.2	24.5	-12.9
	Energy	-1.0	-18.1	7.6	-12.6	21.7	5.2	46.1	-18.5	20.7	-4.8
	Financials	22.2	-13.0	24.7	-15.2	33.2	-8.2	15.2	-18.2	28.4	-22.5
	Health Care	22.1	6.5	20.7	2.2	32.7	-20.8	19.5	-1.7	17.9	-4.7
	Industrials	21.0	-13.3	25.9	-14.0	26.3	-12.4	30.7	-14.0	32.0	-16.9
	Tech	38.8	-0.3	42.3	-5.5	61.0	-19.0	42.6	-20.9	36.6	-11.0
	Materials	23.8	-14.7	30.2	-15.6	34.2	-11.1	33.3	-24.9	35.8	-17.7
	Real Estate	10.8	-2.2	18.5	-7.0	50.0	-16.9	7.4	-3.3	26.6	-18.0
	Comm. Svcs.	-1.3	-12.5	8.6	-10.1	17.5	-14.5	11.3	-8.0	16.4	-13.4
	Utilities	12.1	4.1	14.8	2.2	17.1	-3.5	-0.2	17.7	24.4	-1.2
	Total	21.8	-4.4	24.6	-8.9	37.8	-14.2	24.4	-12.6	26.2	-14.3

Source: FactSet as of Dec. 31, 2018



In 2018, All 17 Major Asset Classes Failed to Beat Inflation. In 2017, They All Did.

Asset classes are ranked based on annual return less US headline inflation in US dollars. Green returns beat inflation, red returns trailed inflation.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	10-Yr. US Tsy.	MSCI EM	REITs	10-Yr. US Tsy.	MSCI China	Russell 2000	REITs	MSCI Japan	Commodities	MSCI China	Two-Yr. US Tsy.
2	Two-Yr. US Tsy.	MSCI China	Russell 2000	Inflation Bonds	MSCI Europe	S&P 500	S&P 500	REITs	Russell 2000	MSCI Emg. Mkts.	US Agg. Bond
3	US Agg. Bond	Global High Yld.	Commodities	EM Sov. Credit*	Global High Yld.	MSCI Japan	10-Yr. US Tsy.	10-Yr. US Tsy.	US High Yield	MSCI Europe	10-Yr. US Tsy.
4	EM Local Debt	US High Yield	MSCI EM	US Inv. Grade	REITs	MSCI Europe	MSCI China	EM Sov. Credit*	Global High Yld.	MSCI Japan	US High Yield
5	US Inv. Grade	Commodities	MSCI Japan	US Agg. Bond	MSCI EM	US High Yield	US Inv. Grade	S&P 500	S&P 500	S&P 500	US Inv. Grade
6	Inflation Bonds	MSCI Europe	US High Yield	REITs	EM Sov. Credit*	Global High Yld.	EM Sov. Credit*	Two-Yr. US Tsy.	MSCI Emg. Mkts.	Russell 2000	Inflation Bonds
7	EM Sov. Credit*	EM Sov. Credit*	S&P 500	US High Yield	Russell 2000	MSCI China	US Agg. Bond	US Agg. Bond	EM Sov. Credit*	EM Local Debt	EM Local Debt
8	US High Yield	REITs	Global High Yld.	Global High Yld.	S&P 500	REITs	Russell 2000	US Inv. Grade	REITs	Global High Yld.	Global High Yld.
9	Global High Yld.	Russell 2000	EM Local Debt	S&P 500	US High Yield	Two-Yr. US Tsy.	Inflation Bonds	MSCI Europe	US Inv. Grade	EM Sov. Credit*	REITs
10	Commodities	S&P 500	EM Sov. Credit*	Two-Yr. US Tsy.	EM Local Debt	US Inv. Grade	US High Yield	Global High Yld.	EM Local Debt	REITs	EM Sov. Credit*
11	MSCI Japan	US Inv. Grade	10-Yr. US Tsy.	EM Local Debt	US Inv. Grade	US Agg. Bond	Two-Yr. US Tsy.	Russell 2000	Inflation Bonds	Inflation Bonds	S&P 500
12	Russell 2000	EM Local Debt	US Inv. Grade	Russell 2000	Inflation Bonds	MSCI EM	Global High Yld.	US High Yield	MSCI Japan	Commodities	Commodities
13	S&P 500	Inflation Bonds	US Agg. Bond	Commodities	MSCI Japan	Inflation Bonds	MSCI EM	Inflation Bonds	US Agg. Bond	US High Yield	Russell 2000
14	REITs	MSCI Japan	MSCI China	MSCI Europe	US Agg. Bond	EM Local Debt	EM Local Debt	MSCI China	MSCI China	US Inv. Grade	MSCI Japan
15	MSCI Europe	US Agg. Bond	MSCI Europe	MSCI Japan	10-Yr. US Tsy.	10-Yr. US Tsy.	MSCI Japan	EM Local Debt	Two-Yr. US Tsy.	US Agg. Bond	MSCI EM
16	MSCI China	Two-Yr. US Tsy.	Inflation Bonds	MSCI EM	Commodities	EM Sov. Credit*	MSCI Europe	MSCI EM	10-Yr. US Tsy.	10-Yr. US Tsy.	MSCI Europe
17	MSCI EM	10-Yr. US Tsy.	Two-Yr. US Tsy.	MSCI China	Two-Yr. US Tsy.	Commodities	Commodities	Commodities	MSCI Europe	Two-Yr. US Tsy.	MSCI China

*US-dollar bonds

Source: Bloomberg, Morgan Stanley Research as of Dec. 31, 2018

worst year ever for their portfolios, a few asset classes delivered positive real returns. Even cash, which fared better than every other asset in 2018, failed to beat inflation given that overnight interest rates were quite low at the start of the year.

Our call for 2018 this time last year was for a flattish year in equities with a lot more volatility and at least one, if not two, 10% equity market corrections (“Don’t Expect an Encore,” *On the Markets*, January 2018). We weren’t positive on bonds either, particularly high yield bonds, which we removed from our allocations completely in January after having downgraded and halved positions in July 2017. These views were far out of consensus at the time; most strategists and asset allocators were bullish and looking for another double-digit gain for equities—and for credit to do well, too. This call came on the back of our out-of-consensus bullish views in 2017, which proved to be correct (“Are You Ready for Euphoria?” *On the Markets*, January 2017).

It’s often hard to pivot quickly and it can also be dangerous to fight the momentum. However, our job as asset allocators is to do just that. In short, we try to stay one step ahead and anticipate change so we don’t have to react at the wrong time. In the past few years, we’ve done a good job of that, even though we’ve had bad calls, too.

LOOKING BACK. To understand our 2019 outlook, it’s helpful to review why we thought things would be different in 2018 than most other prognosticators. First, we expected financial conditions to tighten significantly as the Federal Reserve began to raise rates more deliberately, reversing Quantitative Easing (QE). Second, while growth was likely to be strong in 2018, it was also likely to peak in terms of the rate of change, and that is something markets typically don’t like. In other words, we expected the economy and thus corporate earnings to be strong last year, but we thought the market would pay less for them—and that happened in terms of falling valuations. In short, our out-of-consensus view was based on our appreciation that markets are discounting mechanisms and they had already priced in much of the good news we expected to arrive during 2018.

We also thought that the collision of better growth and tightening financial conditions would result in a “rolling bear market.” That’s a bear market that doesn’t hit every asset category simultaneously but rolls through the markets sequentially, hitting the weakest links first and hardest while leaving the major indexes flat to down 5%. In short, it would feel a lot worse at the individual asset level than at the index level, and at different times. We also suggested that this kind of bear

market would not lead to a major decline in diversified portfolios—meaning investors shouldn’t sell everything just to pay taxes and then try to time re-entry. Instead, we chose to reduce risk modestly and tactically by selling expensive assets at the appropriate time.

That’s generally what happened when the rolling bear market hit Bitcoin in December 2017 and finally washed over the high-flying tech stocks in 2018’s fourth quarter. The MSCI All Country World Index ended the year down 9%, an unpleasant outcome, but hardly devastating, considering the index was up 52% from the lows in February 2016 to the end of 2017. Credit, too, underperformed in 2018, down about 3% on a market-weighted basis—but that’s hardly the kind of wipeout we experienced in 2008/2009 or 2015. Perhaps the most surprising thing about 2018 is that so few people failed to heed the adage, “Don’t fight the Fed.” As such, 2018 results were quite predictable, at least directionally.

While we were the biggest bears on the Street last year, we didn’t get everything right. Our relative international equity allocation was too large as we took too much comfort in valuation support. Our bullish position in master limited partnerships also hurt us, as oil prices were finally hit by the bears, too, in the fourth

quarter. However, our January reduction in high yield and increase in cash and our July rotation out of growth stocks and small caps to raise some more cash turned out well.

LOOKING TO 2019. We think much of what worried us last year has now been appropriately repriced. Equity risk premiums are up substantially all over the world, with the average price/earnings multiple down 25%. Of course, valuation is only one metric to consider. We are also encouraged by the collapse in investor sentiment and positioning in the past three to six months, and we like that many other strategists and most media outlets are finally getting bearish and acknowledging the narrative we were using for all of 2018. Finally, our technical analysis of the stock market showed signs of selling exhaustion during the last week of the year. All of these items—valuation, sentiment, positioning and technical exhaustion—make us incrementally bullish now. In our most recent “*Thoughts on the Market*” video commentaries, we have been encouraging clients to start putting some of that cash they have raised this year back to work, especially when the S&P 500 is trading around 2,500 and offering what we think is 10% upside—with dividends, a 12% total return—to our year-end forecast of 2,750.

From a fundamental standpoint, our economics team is forecasting a trough in global economic growth in the first quarter, which means markets should start to discount that now. Creating that trough will be the three largest emerging market (EM) economies—China, India and Brazil—as well as Japan. China has been aggressively easing monetary policy and cutting taxes for more than six months as an offset to their crackdown on excessive credit growth last year and headwinds from US tariffs. Given the lack of a firm “deal” on trade with the US and recent slowing in global activity, we think more stimulus from China is forthcoming, even though they just announced several new measures. For India, we are expecting accelerating growth, too, as they begin to stimulate ahead of what will be an

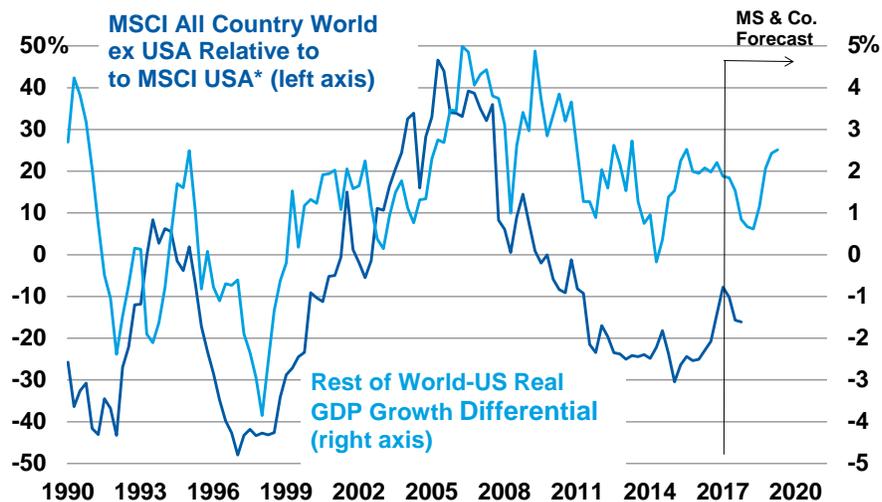
important election in the spring. Finally, Brazil is just starting to recover from a deep three-year slump. Japan suffered two natural disasters, an earthquake and a typhoon last year. As a result, third-quarter GDP was sharply negative and growth is already rebounding nicely. Finally, while we aren’t looking for acceleration in European growth, it should hold steady near its potential GDP of 1.5% and not be a drag on global growth. Meanwhile, our economists expect US economic growth to decelerate sharply to 1.0% in the third quarter from its peak of 4.2% in last year’s second quarter.

RELATIVE POLICY MATTERS. What this means is that the economic and earnings growth in international economies should bottom first and then exceed the US in 2019. It’s also likely that relative monetary policy should begin to shift, too, as the Fed takes a pause in hiking interest rates while foreign central banks stay closer to their current paths. Such changes in growth and policy differentials will likely lead to a major top in the US dollar, which can have significant implications for global financial asset performance. Putting all of this together keeps us incrementally more bullish on international stocks relative to the US despite 2018’s disappointments.

The chart below illustrates the historical differential and our forecasted differential between GDP growth in the US and the rest of the world (RoW) overlaid with the relative equity market performance. As you can see, RoW relative performance has lagged the relative growth differentials since the financial crisis. In our view, this is an aberration and begs the question, “Can this gap close?” We think the answer is yes. At a minimum, it shouldn’t widen any further and, therefore, better growth should lead to better performance.

The other major consideration is currency. The relative returns shown are in US dollars, so part of the lag during the past decade is because the dollar has been in a structural bull market, which we think is now ending. If we’re right and the US dollar weakens as our currency team expects, the relative performance will catch up as the euro, yen and EM currencies all appreciate against the US dollar. In our view, that is part of the alpha from investing globally and also a great diversification benefit for dollar-based investors. The bottom line is that a good portion of the US market’s relative outperformance in the past decade has come from dollar appreciation. We think that period is likely over, which will serve as an important catalyst for the

Wide Gap Exists Between US and Rest of World in Equity Returns and GDP Growth



*Three-year, year-over-year change

Source: IMF, Datastream, Morgan Stanley & Co. Research as of Nov. 21, 2018

international equity market catch-up that began in 2016 but stalled out in 2018. For 2019, our currency strategy team forecasts the euro to appreciate by 14%, the yen by 8% and EM currencies by 4% on an equity-market-weighted basis. The table to the right shows our regional equity market price targets in both local and US dollars. As you can see, there is a dramatic difference between the two, making the case for international over US quite compelling on a currency-unhedged basis.

RISK PREMIUMS. While we appreciate this same preference last year was also our biggest mistake, the growth differentials and valuation spreads are much wider now and too compelling to ignore. The market is paying 400 to 450 basis points more in equity risk premium to own Japan and Europe rather than the US. Emerging market risk premiums are similar to the US, but we are expecting much better earnings growth. The other big preference we maintain is value over growth across all major equity regions.

Unlike the international overweight we implemented last January, our switch to value from growth in July was well timed. The preference for value over growth is driven by many of the same fundamentals as was our bias for international: a bottom in global nominal GDP growth next year; a weaker US dollar; and an easing of financial conditions as the Fed eventually pauses its rate hike cycle and balance-sheet reduction. In addition, economically sensitive cyclical stocks, which tend to make up a large portion of the value style, severely underperformed defensive stocks, which are not economically sensitive. The chart to the right shows our ratio of cyclical versus defensive stocks overlaid with global nominal GDP growth. As you can see, GDP growth has a close fit with our cyclical/defensive ratio, actually leading by a quarter or two, and supporting the contention that stocks, in fact, are discounting mechanisms.

Looking at the chart closely suggests that our cyclical/defensive ratio has already priced in severe deceleration in global nominal GDP growth. Meanwhile, our economists are forecasting a shallower

MS & Co.'s 2019 Equity Market Price Targets

Index	Current Price	Target Price/ Percent Change From Current Level			Percent Target Return From Dec. 31, 2018 to Dec. 31, 2019 (in US dollars)		
		Bull	Base	Bear	Bull	Base	Bear
S&P 500	2,507	3,000	2,750	2,400	20	10	-4
		20	10	-4			
MSCI Europe	1,405	1,890	1,540	1,170	55	26	-4
		35	10	-17			
TOPIX	1,494	2,100	1,800	1,300	50	29	-7
		41	20	-13			
MSCI Emg. Mkts	966	1,230	1,050	750	32	13	-19
		27	9	-22			

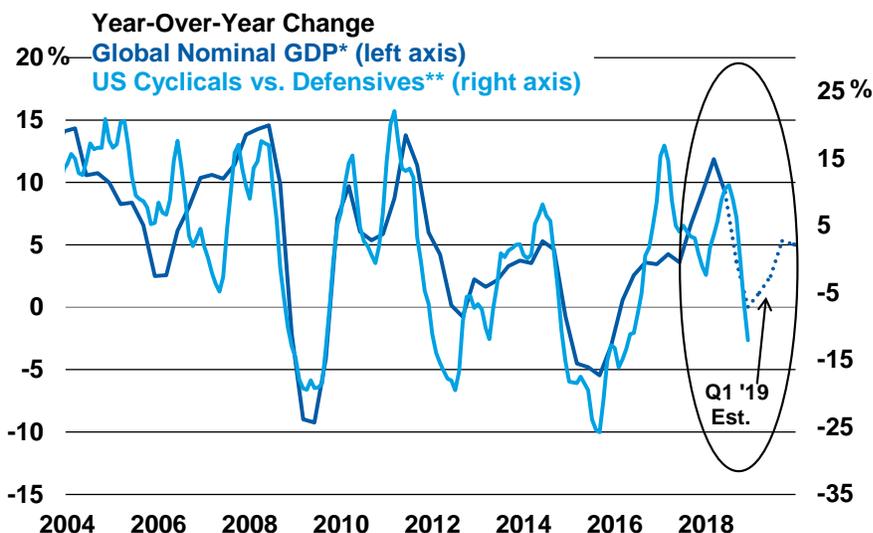
Source: Bloomberg, Morgan Stanley Research as of Dec. 31, 2018

trough than what the cyclical/defensive ratio is suggesting or what we experienced in 2015/2016. Obviously, our economists could be underestimating the decline, but they have been more pessimistic than consensus and have built in a more negative outlook for the US next year. Once again, it's our job to try and anticipate change in the context of what's already priced and, in that regard, this looks like a good time to be adding to some of the most beaten up areas of the market—cyclical and international

equities. If our economists are even close to being right about timing and levels of the trough in growth, such investments at current levels should be well rewarded.

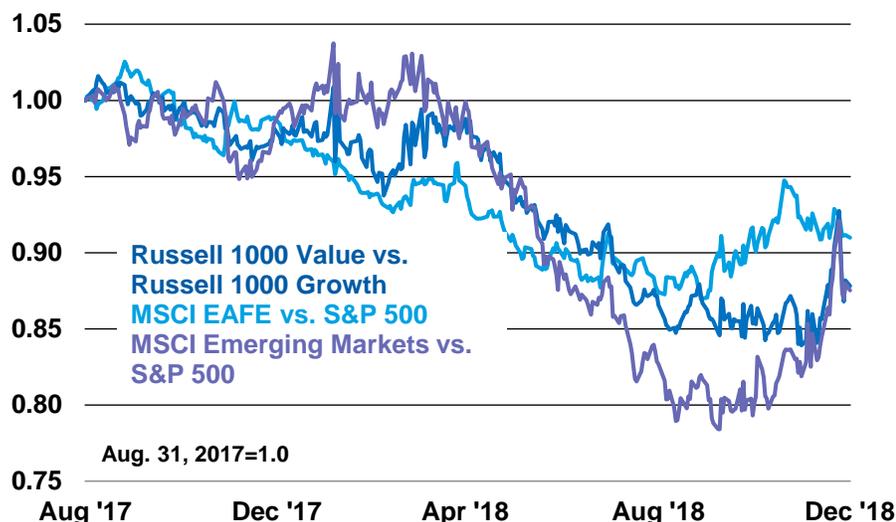
PREFERENCES. Further supporting our preference for international over US equities and value over growth is the price action since October in US growth stocks. In our experience, when financial markets go through broad declines like those of the past six months, we look at what displayed relative outperformance during the last part the decline, as that's what tends to

Cyclical/Defensive Ratio Has Already Discounted a Severe Deceleration in Nominal GDP Growth



*BRIC+G4 in US dollars, weighted averages using purchasing power parity **Three-month moving average
Source: National data sources, IMF, Haver Analytics, Morgan Stanley & Co. Research as of Dec. 21, 2018

Relative Performance Trends Appear to Be Underway For Value, EAFE and Emerging Market Equities



Source: Bloomberg as of Dec. 31, 2018

lead in the eventual upturn. The chart at the top of the page shows the relative performance of EM equities and developed international equities relative to the S&P 500, as well as US value relative to US growth stocks. As you can see, all are showing relative outperformance since September, albeit modest, but all new trends have to start somewhere.

LOWER RATES. Moving on to bonds and credit, we think rates are likely to fall further as growth slows but then bottom during the year as growth troughs. Due to QE and financial repression, we have believed long-duration bonds would not be as good of a diversifier as they have been historically, which is why we have long favored shorter-duration bonds and continue to do so. Credit corrected significantly in the final few months of 2018 and now offers much better value. However, we remain underweight credit,

especially high yield, as the correction has left stocks relatively more attractive than credit.

The bottom line for our outlook this year is that we expect a better year than 2018 both in terms of absolute returns and the breadth of those returns. We are confident that there will be some big winners this year and have stacked our allocations in international and value-oriented equities. We like short-duration bonds as a proxy for cash-like instruments to start the year and will likely be deploying that throughout 2019 as the markets give us opportunities to do so. Those additions will likely focus on US stocks and high yield, two areas we are currently underweight. While markets don't feel great right now, that makes us more comfortable, not less. It's the opposite of last year when we warned that speculation was appearing in many assets like

cryptocurrencies, fine art and wine, trophy properties and high-priced growth stocks, as we always try to stay a step ahead.

As noted many times in the past several years, the Global Investment Committee believes we entered a secular bull market for US equities in August 2011, Japan began its secular bull market in 2012 and emerging markets joined the party in 2016. From those dark days of early 2016, we experienced a global reflation helped along by a populist wave that is still misunderstood and, unlike a year ago, is underappreciated. In a world still encumbered by too much debt, global reflation is exactly what is necessary to not only sustain it, but eventually reduce it. In fact, it's exactly what central bankers have been trying to achieve for the past eight years but without the help of coordinated fiscal support.

Instead, it took populist pressure to finally persuade the hand of governments around the world to pull the spending lever they naturally rejected in the wake of the financial crisis. Instead, they chose to embrace fiscal austerity—a guaranteed path toward deflation when one is already overindebted. We argued last year this lever would bring a cyclical peak and bear market closer, but ultimately usher in the second leg of the secular bull market—one that, once complete, should be led by international equity markets, including Europe. While it may still take some time for the rolling bear market that began almost a year ago to play out, we think 95% of the price damage has been completed. After positioning more defensively for 2018, the GIC is prepared to take advantage of the opportunities as they are presented to us and our clients. ■

ON THE MARKETS / EQUITIES

How Tariffs Could Increase Costs and Crimp Profits

A recent report from Morgan Stanley & Co. Research titled, “Will the Supply Chain Be Unbroken?,” examines the sectors most exposed if tariff escalation starts to disrupt US companies’ global supply chains. The following excerpt examines how tariffs could affect apparel retailers. The piece was written by Kimberly Greenberger, MS & Co.’s equity analyst for North American specialty apparel and department store retailers.

At its peak in 2010, China made 39.2% of all apparel imported to the US, according to the US Commerce Department. That was before rising wages led manufacturers to lower-wage countries. By 2017, China’s share was down at 33.7% (see chart). Now, with the possibility of as much as a 25% tariff on Chinese goods, what will happen to the supply chain that produces much of what we wear—and how will it affect retailers’ profits?

HIGHER COSTS. Manufacturers may seek to move additional production out of China if tariffs are implemented on apparel imports from China, but given the country’s large share of the import volume and labor-pool limitations elsewhere, we expect this further migration would take years to achieve, if at all. This means US retailers would face higher apparel sourcing costs if the US implements tariffs on apparel imports from China.

In our view, retailers would likely rely on a variety of maneuvers to defray some of the incremental costs brought on by tariffs, including sharing the costs with Chinese manufacturers and raising prices to consumers. Additionally, they may hope for US-dollar appreciation against the renminbi to offset a piece of the cost. However, the stars would need to align perfectly to preserve retailers’ earnings before interest and taxes (EBIT) margins at current levels, and we are unconvinced that all of the pieces will come together.

Instead, we expect apparel retailers’ margins to fall in 2019 if tariffs are implemented, and this potential pressure is not included in our current earnings forecasts.

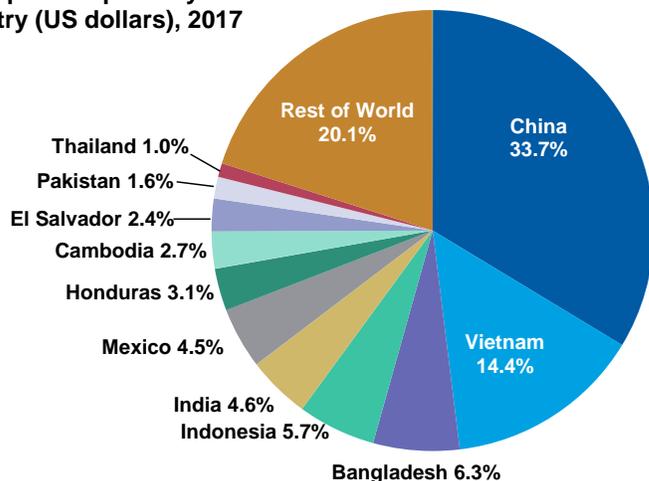
PRICE DEFLATION. We don’t believe that retailers can successfully raise prices. The US apparel market has suffered from price deflation for more than two decades. On average, US apparel prices have deflated at a rate of 1% per year, demonstrating that apparel retailers have little-to-no pricing power. Further, in an era of internet shopping, apparel retailers struggle to get shoppers into their stores. In response, retailers have used price discounts to drive traffic. Even with those incentives, US retail store traffic has declined an average 3% a year since 2010. Without price to drive customers to the stores, volumes could deteriorate further, pressuring aggregate retail margins.

So, how might a 25% tariff on imported Chinese apparel be absorbed? We make room for a wide range of possible outcomes, but offer the following scenario as an illustrative example: Assuming a the dollar strengthens against the renminbi by 5% and China-based manufacturing partners and retailers share the tariff costs equally, we calculate an impact of 160 basis points on EBIT margins and a roughly 20% impact on operating-income growth. This also presumes no ability to pass along higher costs to consumers.

FURTHER WAGE PRESSURE. This scenario assumes no cost inflation elsewhere in Asia, which strikes us as optimistic. If other industries subject to US import tariffs look to move production out of China to other Asian countries, those countries could experience upward wage pressure. Given apparel production is a relatively lower-wage industry, labor scarcity and/or repurposing labor to higher value-added manufacturing could drive wage rates higher for apparel producers throughout Asia. ■

China Still Dominates US Apparel Imports

US Apparel Imports by Country (US dollars), 2017



Source: OTEXA, Morgan Stanley & Co. Research as of Nov. 19, 2018

Beyond the Scalpel

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Medical technology has made great progress in the past 100 years in curing once untreatable diseases, but the next century may look more like science fiction than contemporary medicine. The health care sector is primed for disruption: data analytics facilitate more rapid drug testing and personalized treatment; genomic diagnostics and editing enter mainstream; secrets of the microbiome are unlocked; and biological or robotic prosthetics help people live longer and more fulfilling lives. Investors should be on the forefront of this transformation while being mindful of the risks.

According to IDC Health Insights and Dell EMC, the volume of health data collected globally will increase 47.4% annually between 2013 and 2020, representing a massive opportunity for application of analytics in medicine. Computers can be loaded with data

allowing inferences off a larger number of cases than a doctor could possibly remember or even see. The data facilitates more accurate diagnosis and treatment.

Genomics. The second revolution is genomics (see chart). After sequencing all of the nucleotides in the human genome, biologists were able to accelerate identification of disease-causing variations in genetic code. By targeting drugs to specific genes, doctors can tailor treatments. Drugs that may have failed clinical trials because they produced too many side effects in a broad population may clear clinical hurdles with a genetically targeted subgroup, lowering research and development costs.

The next breakthrough is the ability to alter the sequence of these nucleotides. With gene-editing technology, researchers can recode or block genes that lead to disease. Several companies now compete to create cures for genetically defined diseases, distinguishing themselves not just by discovering treatments, but also by developing unique delivery mechanisms or gene-editing techniques.

Microbiome. A third emerging medical technology is microbiome. Much smaller than the genomics field, microbiome research focuses on microbes such as bacteria, viruses and fungi that live inside and on humans. New research suggests that these microscopic organisms play a critical symbiotic role with human hosts. Better understanding of this area may improve treatment for cancer, intestinal diseases and immune systems.

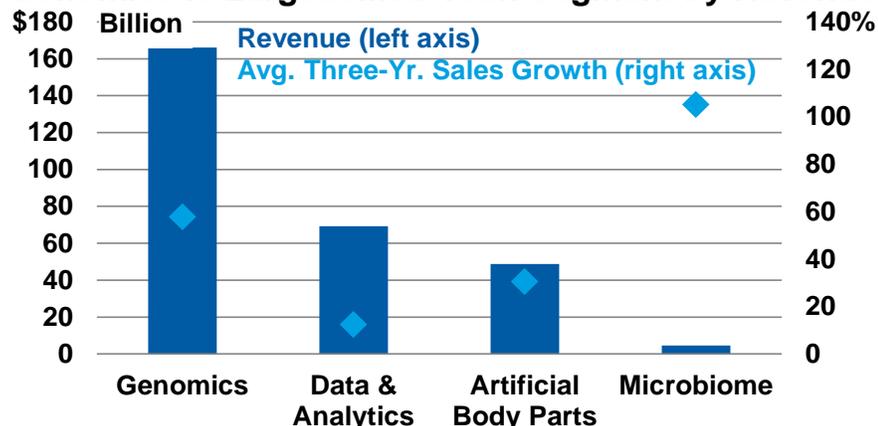
Artificial body parts. The fourth technology that offers potential is artificial body parts. This includes robotics, artificial hearts, 3D-printed organs, and nanotech. One of the major challenges facing the health system is a shortage of replacement organs, and synthetic replacement parts can fill that gap.

Patent and copyright laws are real risks since these companies rely so heavily on their intellectual property. Is decoding a genetic sequence sufficient to warrant intellectual property? The current precedent established by the US Supreme Court in 2013 is that “DNA in its original form cannot be patented.” This is a fluid element of intellectual property law and increases the likelihood that some of this technology becomes commoditized and generic treatments will emerge.

Other risks for these technologies include drug pricing and safety regulation. For investors, this means that potentially successful treatments might never make it to market and companies are not rewarded for innovation. This could become more acute as advances in data analysis and fabrication help fast followers close the gap on first movers caught up in regulatory slowdowns.

Medical technologies, and specifically biotech, have experienced booms and busts in public markets. We suggest investors focus on the highest-growth opportunities within med tech while trying to dampen risk by focusing on technologies that can be used across different illnesses and stages of treatment. ■

Genomics Is Largest Med-Tech Segment by Revenue



Note: Revenue growth is for fiscal-year 2017. Sales growth is compound annual growth rate.

Source: Bloomberg, Morgan Stanley Wealth Management as of Dec. 20, 2018

ON THE MARKETS / SHORT TAKES

Yield Curve Suggests Stock Market Volatility May Remain High

A flattening US Treasury yield curve results from a narrowing spread between short-term and longer-term yields. Typically associated with a maturing economic cycle, this phenomenon coincides with expectations for slower GDP growth and a more volatile environment for equities. Historically, the slope of the two-year/10-year yield curve (as measured by the spread between two-year note and the 10-year bond) has corresponded to rising equity volatility, as measured by the VIX, with a three-year lead time. Considering that the current two-year/10-year curve is approaching zero, equity volatility may remain elevated in the coming quarters (see chart). A data-dependent Federal Reserve may also contribute to greater uncertainty about interest rates and economic momentum.—*Vibhor Dave*



Source: Bloomberg as of Nov. 30, 2018

When Adjusted for Inflation, Average Hourly Earnings Are Barely Growing



Source: Bloomberg as of Nov. 30, 2018

Average hourly earnings, a component of the US Bureau of Labor Statistics' monthly jobs report, measures earnings trends and wage inflation in domestic labor markets—and those earnings rose 3.2% year over year in November. Workers appear to be benefitting from a solid economic backdrop of an unemployment rate near the 50-year low, plump corporate profits fueled by tax reform and strong reports from the Institute for Supply Management, both for the manufacturing and nonmanufacturing sectors. However, inflation is also up, so the real, inflation-adjusted rate was 0.5%, far below the peak of 3.0% reached in January 2015 (see chart). Looking ahead, real wage growth may decelerate as the Federal Reserve continues to normalize monetary policy and GDP growth decelerates. Morgan Stanley & Co. economists project US GDP growth to slide to 1.0% in the third quarter, down from 4.2% in 2018's second quarter.

—*Christopher Baxter*

Decline in R&D Spending Could Threaten Companies' Gross Margins

Spending on research and development (R&D) generally adds value for companies because it spurs innovation, which drives down variable costs and supports gross margins and pricing power. In recent years, growth companies, especially those in the tech and health care sectors, have invested heavily in R&D, and their investments have been generally applauded by a market with higher valuations. For high-growth companies, R&D spending as a percent of sales has reached record levels in mid 2018, but has since rolled over—and so have their gross margins (see chart). R&D spending usually declines late in a business cycle, so margins and pricing power could come under pressure. Margins may be cramped even more by higher wages, additional tariffs and increasing capital costs.—*Aili Chen*



*The 10% of US companies with the highest growth rates and the most expensive valuations

Source: FactSet as of Nov. 30, 2018

As the Credit Cycle Turns

VISHWANATH TIRUPATTUR

Head of US Fixed Income Research
Morgan Stanley & Co.

For corporate credit markets, particularly in the US, 2018 was a negative year. Globally, investment grade US-dollar bonds had a -2.4% total return, and high yield (US and Canada) logged a total return of -2.1%, according to FTSE Fixed Income Indexes. This happened against a backdrop of strong economic growth, with defaults and ratings downgrades at rather benign levels. It is worth noting that this reversal of fortunes is precisely what our US credit strategists had predicted for this year. They now expect these bearish conditions to last into 2019.

LEVERED UP. The tricky handoff from QE to Quantitative Tightening (QT) is central to the cracks that have appeared across risk markets—and credit markets in particular. Global QE provided the necessary conditions for corporations to lever up, which is exactly how they responded. Outstanding debt in US corporate credit markets has more than

doubled to more than \$7 trillion today from \$3.2 trillion in 2008. Importantly, the biggest chunk of that growth was in BBB credit, the lowest investment grade rating (see chart). High-debt growth has translated to high leverage; nearly a third of BBB debt is leveraged at or above 4.0. The long-term average is 2.4.

QE affected investor behavior, too. The search for yield became a driving force that led to substantial inflows into US credit, particularly from overseas investors. Also, as part of QE, the Federal Reserve vacuumed up agency mortgage-backed securities (MBS), so fixed income investors became progressively underweight MBS and overweight corporate credit.

INVESTOR INFLOWS REVERSE. With the transition into QT, these flows are reversing. In 2018, foreign investor flows to US credit investments dropped significantly. Without having to compete with the Fed, fixed income investors are looking to rebalance their portfolios with an eye on agency MBS, where spreads are

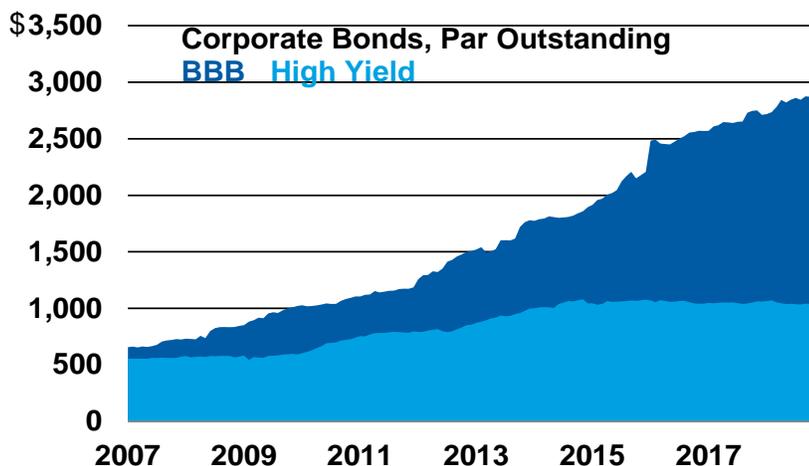
close to postcrisis wides. At the same time, economic growth is decelerating and growth in company earnings is slowing. Now, warns Adam Richmond, Morgan Stanley & Co.'s head of US credit strategy, there is a potential for meaningful “fallen angels,” or investment grade bonds that are downgraded to high yield. Given how large the credit market—particularly the BBB segment—has become, downgrades into high yield will likely be a major stress point in the next credit cycle.

Another focal point of late-cycle excess has been leveraged loans, which are bank loans made to already highly leveraged borrowers. This market is now larger than the high yield bond market. Loan-leverage levels have risen consistently in this cycle, especially first-lien leverage, and they have become ever more leveraged. The debt cushion beneath the average loan has gotten smaller throughout the cycle, which should translate directly into higher loan losses in the event of default.

GARDEN-VARIETY TURN. As the credit cycle turns, an important distinction needs to be made about how this credit cycle turn would evolve compared with past cycles. We expect this credit cycle turn would be much like those in the early and late 1990s—a gradual pick-up in defaults and downgrades over a multiyear period. In short, we see a garden-variety credit cycle turn that is quite different from sharp spike in default and downgrades seen in 2008 and 2009. That said, this bearish turn will be painful for credit investors, in our view.

The silver lining is that investor complacency is lower and valuations have come down in the past few months. Even if the consensus has embraced the idea that end-of-cycle risks are rising notably, at least sentiment is much less uniformly bullish than it was at the beginning of 2018. That said, the credit bear market has started and until valuations have truly priced in long-term fundamental risks, our advice is that investors use rallies to move up in quality. ■

BBB Bonds Have Driven the Growth in Corporate Credit



Source: The Yield Book as of Nov. 18, 2018

Are Your Managers Giving You Excess Value?

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Every day we make purchasing decisions that seek to maximize the value we receive from products and services. We carefully assess whether a product's quality and durability ratings justify its cost, or whether a restaurant's food, service and ambiance appropriately match its menu prices. Through time, we may become more effective decision-makers by continually surveying the marketplace and adjusting to our changing preferences.

Applying a similar cost-benefit analysis

may help improve how we select investment managers. To that end, we have developed a proprietary "Value Score" methodology, which considers active investment strategies' value propositions relative to their costs. From a historical study of several quantitative markers, we compute "fair-value" expense ratios for each manager in an asset class. We then calculate the managers' "excess value" by comparing the fair-value expense ratios to actual expense ratios. We then rank managers within each category by their excess values to assign a Value Score, having found that greater levels of excess value have historically corresponded with attractive subsequent performance.

Fair value and excess value may sound arcane, but here's another way to think about it. When buying a home, you might estimate a specific property's base value

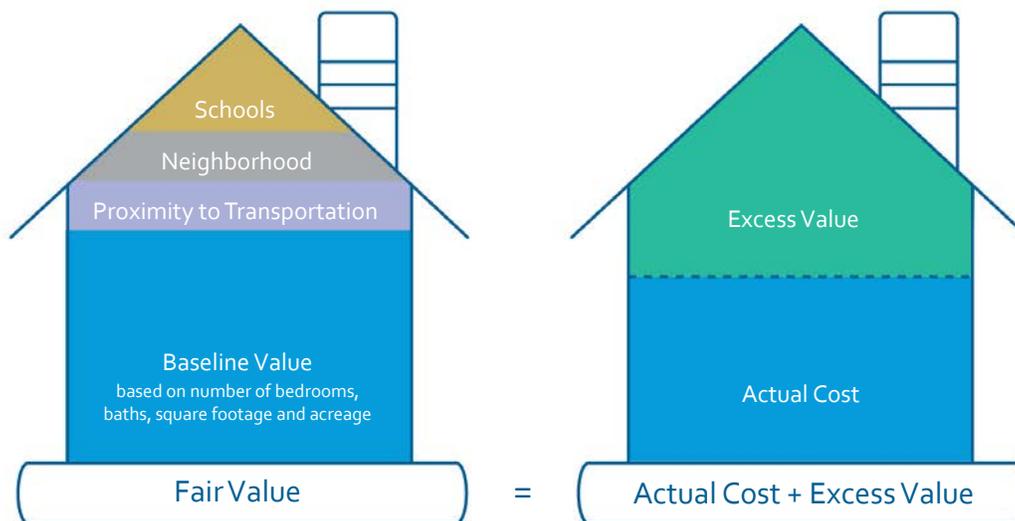
from the number of bedrooms, number of bathrooms, square footage and acreage. From that point, you could consider its "value-added features" such as the character of its neighborhood, the quality of the schools, proximity to transit and personal appeal, in determining its fair value (see chart). The fair value, what you would consider paying for the property, is the combination of the actual cost and the excess value.

So how does house-hunting relate to selecting investment managers?

Running cost-benefit analysis for active managers. Due to the variability of investment returns, investors may struggle in using cost-benefit analysis when hiring investment managers. Expense ratios and management fees, which are costs for investors, may not tie closely to the forward-looking value that investors may receive. When costs exceed benefits, investors become disappointed and hunt for better alternatives. These switches may even compound frustration, as assets flow to managers and substyles that have recently outperformed, only to disappoint investors when the strategy undergoes a reversal.

Intuitive Basis for Calculating and Applying Fair-Value Expense Ratios

We may estimate "excess value" by computing a "fair value" and then comparing it against actual costs.



Source: Morgan Stanley Wealth Management Portfolio Analytics

In response, we have developed a proprietary methodology that considers active investment strategies’ values relative to their costs.

Within each asset class, we compute individual managers’ relative attractiveness based on several value-added features and translate those rankings into their estimated forward-looking potential, based on historical quantitative evidence. We then rank each strategy within each asset class according to the spread between actual and fair-value expense ratios, summarizing the conclusions into a Value Score. Those managers with a more positive spread, signaling more perceived benefit relative to costs, represent more potentially attractive choices.

We have designed the Value Score to focus on a key consideration for manager selection: fee efficiency. Several empirical studies have suggested that simply selecting managers with lower fees has resulted in superior ex ante performance. Yet, this approach only considers costs without weighing benefits. In contrast, the Value Score methodology strives to estimate the potential value of critical features for investment managers. It builds upon the intuition that we may be able to assess the overall benefit of an active manager’s service, as with any product or service, from the aggregate contributions of its underlying features.

Our proprietary Value Score methodology follows this intuitive pattern in calculating managers’ fair-value expense ratios for each category. Based on extensive analysis, here are several features that, we believe, may define a manager’s value proposition:

- **Active management.** How does the manager deviate from the benchmark? Does the investment team take large sector or factor bets, or do they emphasize stock selection?
- **Risk-adjusted returns.** Does the manager consistently add value over the benchmark and peers?
- **Risk mitigation.** How well does the manager manage risk? Do the

manager’s net inflows suggest business health?

These features may contribute to forward-looking value and capture the incrementally positive or negative difference in potential returns between any given manager and the average manager for the category. In theory, higher-quality active managers may consistently demonstrate these features, owing to their solid investment processes. Our analysis has led to the conclusion that these features—and the value-added associated with them—have historically persisted over time, helping us to sort managers by potential attractiveness on a forward-looking basis.

Please refer to table below to follow our calculations. For each underlying manager, we compute the manager’s percentile ranking within its asset class (“Percentile in Asset Class”). We then compute the perceived forward-looking benefit for each feature by studying how managers within similar percentile rankings performed historically over subsequent periods (“Weight” and “Prospective Value-Added” columns). We weight each feature’s contribution and then combine them to estimate the value of these “Value-Added Features” (0.28% in this

case). By adding in the “Average Expense Ratio” for the asset class, we compute a “Fair-Value Expense Ratio” (0.95% for this manager). We subtract the “Actual Expense Ratio” from this “Fair-Value Expense Ratio” to determine the manager’s “Excess Value” (0.95% – 0.30% = 0.65%). This level of “Excess Value” ranks in the 98th percentile for the asset class, leading to a “Yes” rating for this manager (approximately ranking in the top 40%).

As of June 30, 2018, 63% of those managers included on the Global Investment Manager Analysis Focus List received a “Yes” rating from the Value Score methodology, highlighting these managers’ strong prospective value-add against their competitive expense ratios.

Encouragingly, our historical survey suggests that those managers with the Yes designation did achieve attractive forward-looking performance in subsequent three-year periods. These benefits seemed evident across multiple asset classes, for both equities and fixed income, along several dimensions of historical risk-adjusted returns, suggesting that it has potential to assist with manager selection.

Extending our manager-scoring toolkit. The Value Score expands our

A Value Score for a Sample Mid-Cap Value Manager

Category	Marker	Percentile in Asset Class	Weight	Prospective Value-Added
Active Management	Active Management	0.97	60%	0.18%
	Alphas (Ann.)	0.99		
Risk-Adjusted Performance	Information Ratios		20	0.07
	Monthly Hit Ratio	0.95		
Risk Management	Net Flows (Ann.)	0.93		
	Right-Left Tail Capture	0.71	20	0.03
	Up-Down Capture	0.93		
Value-Added Features				0.28
Average Expense Ratio				0.67
Fair-Value Expense Ratio				0.95
Actual Expense Ratio				0.30
Excess Value				0.65
Percentile in Asset Class				0.98 ●

Source: Morgan Stanley Wealth Management Portfolio Analytics as of June 30, 2018, based on data provided by Morningstar

manager scoring toolkit, adding to our patented AAA methodology. AAA focuses on factors indicative of strong investment acumen that may lead to strong future performance. Meanwhile, the Value Score uses cost-benefit analysis to sort managers within each asset class according to their potential excess value, the spread between their perceived value and their expense ratios.

These scoring tools therefore address two critical dimensions of what may indicate a high-quality active manager: performance and value. Those managers with “Yes” designations under both AAA and the Value Score may be worthy of particular consideration when selecting active managers.

Helping to construct portfolios. After setting their broad asset allocation,

investors look to maximize their expected risk-adjusted net returns within each asset class. If all investment strategies in a given asset class yielded similar gross returns at similar levels of risk, investors would naturally gravitate solely to lower-fee managers. Yet, experience has shown that, even within a given asset class, investment strategies have produced diverse risk-adjusted returns over rolling windows.

Once investors have determined to hire an active manager in a given asset class, they face the question of the manager’s benchmark-relative risk level. For example, in US large-cap growth, an investor may consider managers across aggressive, traditional and conservative growth subcategories. In order to accommodate investor preferences, we have designed the AAA and Value Score

methodologies to provide recommendations on higher-quality managers along the spectrum of benchmark-relative risk levels.

By complementing other due-diligence resources, these manager-scoring tools may contribute to maximizing the odds for successful manager selection and portfolio construction, potentially boosting our clients’ long-term results. ■

This article was excerpted from a special report, “Value Score: Scoring Fee Efficiency by Comparing Managers’ “Fair Value” and Actual Expense Ratio” published in November 2018. Other authors were Lisa Shalett, Daniel C. Hunt, CFA, and Vibhor Dave.

Emerging Markets: A Long-Term Play

Still recovering from the whiplash of the past decade, emerging markets investors have cause to be wary. The past two years alone saw the MSCI Emerging Markets Index go to the worst-performing asset class in 2018 from the best in 2017. Rajiv Jain, chief investment officer at New York-based GQG Partners, isn't one to view these countries through rose-colored glasses. "I don't have a rosy outlook on all of the emerging markets, because I do feel that we are coming out of a phase where money was cheap and easy—and that environment could be problematic for pretty much every asset class." That said, the 22-year veteran investor notes that a meaningful de-risking has already taken place, following a marked decline in emerging market (EM) currencies. "If you're taking a longer-term view, a good time to buy emerging markets is when the currencies have gone down a lot." He recently spoke with Morgan Stanley Wealth Management's Tara Kalwarski. The following is an edited version of their conversation.

TARA KALWARSKI (TK): What's your take on the emerging markets right now?

RAJIV JAIN (RJ): We have seen a few different things. From a longer-term perspective, we had a bear market from 2011 into 2016, during which the emerging markets lost 50%-plus. Then a recovery started, but it was led by earnings and we did not see any multiple expansions that would have meant a real recovery. In 2018, the bulk of the decline was because of currency weakness, the trade war and country-specific issues—especially in China.

If we take a step back, I feel that longer-term valuations do look attractive, but the two aspects that will continue to have an impact on the short-term EM picture are where the US economy is from a cycle perspective and the trade-war issues.

What's interesting is that, in the short term, you've seen that the emerging markets are not going down even when the dollar has gone up. I think that we are in the early stages of a separation between currencies collapsing, irrespective of the fundamentals. The knee-jerk reaction—if the US market goes down, currencies go down and emerging markets go down—is coming to an end. Currencies are reacting a lot more to their core fundamentals.

Also, when the dollar is strong, historically commodities don't do well. In 2018, we didn't see that. The dollar was relatively strong, and we also had strong commodities. Two of the best-performing sectors were basic materials and energy. What we're seeing is that the companies that have commodity exports have actually done very well, whether they are oil companies in China, Brazil or Russia, or some of the mining companies. What's interesting is that some of the more stable areas, like consumer staples and financials, have actually underperformed.

In general, quality has underperformed. That typically happens in the early part of the recovery, and I do feel emerging markets are still in the early part of a recovery that started in March or April 2016.

Lastly, if it is indeed the case that the US is coming close to the end of the tightening cycle, then maybe emerging markets will start behaving slightly

differently than what you've seen in the past 12 months.

TK: What are you most worried about?

RJ: In the broad emerging markets, there's always the trade-war issue, and I think one should not underappreciate this if it gets much more heated. You could see impact in a few different places—China being the obvious one—but you could also see spillover in some of the developed markets like Japan and Germany, as well as some of the technology names.

I feel the technology side may be particularly vulnerable because China is a big user of semiconductors and obviously a big manufacturing hub. Amid a trade dispute, the supply chains could be disrupted—which would impact not only EM margins but also broad margins on the technology side. If large US tech companies experience slowdown, signs of slowdown in demand for servers soon will follow.

We're also seeing slowdown in gaming and e-commerce. So technology is this big area that worries me. I don't think the markets are fully anticipating the slowdown that is beginning to take hold.

The other obvious risk is the Federal Reserve's policy and the impact of rising interest rates on specific countries that are dependent on foreign capital, like Turkey and South Africa—but I feel that a lot of the bad news is already baked in there, so I am less concerned about that.

TK: Where do you see opportunities?

RJ: There are businesses you can buy, which provide a higher degree of certainty but are undervalued. They are not the fastest-growth companies, unlike technology where a lot of companies are still not discounting a potential slowdown.

You have to be careful. There are businesses like some of the Asian utilities that are incorporating meaningfully higher interest rates, and as a result, the multiples are compressed. I think these undervalued stocks are more attractive than trying to buy companies that are dependent on the continued growth of smartphones. Last

year, global smartphone sales had a single-digit decline in growth.

For some of the businesses, interest rates have an impact on the multiples that you pay. While those companies are already discounting meaningfully higher rates, the economic outlook is still forecasting growth in the mid-to-high single digits. So you can still compound that high-single-digit—even if interest rates sort of move around a little bit.

Put another way, you've got to be careful about paying too much for growth, and you need to lean in favor of certainty and valuation a lot more than usual.

TK: Are you seeing opportunities in any smaller or frontier nations?

RJ: I find frontier markets a little too expensive, in general, for the liquidity that you get. From time to time, we have invested in them. In the late 1990s, we were in Botswana, Mauritius, Pakistan and Sri Lanka. Most recently, Argentina presented opportunities, but besides Argentina right now, I feel that you're taking a lot of liquidity risk and valuations seem to be a little bit too high for that risk.

The emerging markets index is one that has evolved quite dramatically, and will continue to evolve. China was very small 15 years ago; now, it's a meaningful part of the index and will keep growing. If you look at Latin America, it is a fairly small portion of the overall index versus Asia—but there is a kind of ebb and flow, where the new listings are coming in, and I feel that'll probably continue.

TK: How might various scenarios in the US have an impact on the emerging markets?

RJ: Generally speaking, you are seeing the problems coming from the creditors' side. The corporate world is a little bit leveraged, and we are coming off Quantitative Easing. We've got to be more careful and much more vigilant on balance sheet strength than usual. If EM

companies depend on capital markets, and if the spreads keep widening, they will have a problem. The consumer side is actually much better situated today than the corporate side.

TK: Is transparency still an issue when investing in EM companies?

RJ: There has been a meaningful improvement in governance of some of the state-owned enterprises, and that's where the forward-looking quality matters. To specifically say state-owned enterprises are not good is painting them with a broad brush. Some of the state-owned companies are actually attractively valued and the future looks good. Our exposure has actually been increasingly on that side at the expense of some of the tech companies.

TK: Where could we see surprise on the upside? What do you think investors are not anticipating that could make for a brighter picture?

RJ: If interest rates maybe don't go up in the US as much as people think, then the currencies will begin to stabilize because current-account deficits would begin to come in. I think if the trade dispute with China gets to some sort of truce, then the upside could be meaningful, especially in some of the more domestic-oriented companies where there's less regulation. So I will say there could be sort of meaningful surprises and you could start seeing an earnings upside.

TK: Any thoughts regarding how to best take advantage of the opportunities in the emerging markets?

RJ: You've got to be careful of not owning too much of a similar kind of exposure. If you're invested in an EM company that supplies a large US tech company, and that US company—which you might also own—doesn't do well, it might also affect the EM company. You might not be getting as much EM exposure as you thought you were.

The second thing is that in a lot of emerging markets, financials are actually well positioned and they are secular growers. We are not making a call on a banking cycle in the US or Europe. You're betting on increasing penetrations of people in more consumer-oriented banks. Some of the EM banks have steady compound earnings growth.

In general, financials are probably one of the best areas within the emerging markets, and it's one area where the index doesn't give you enough exposure. With technology, the index gives you too much exposure.

TK: What do you expect over the next decade?

RJ: It's easy to get caught up in the short term, but I think that you need to have EM exposure because the opportunities that remain are certainly large. If you go back 10 years, Chinese internet companies didn't really exist. Today, they are a meaningful part of the index. This is a dynamic area where opportunities continue to open up as per capita income keeps growing slowly but surely, and as the middle class increases.

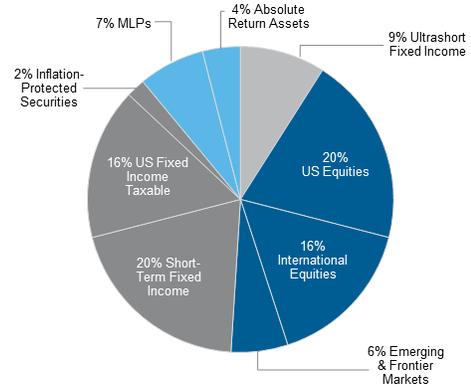
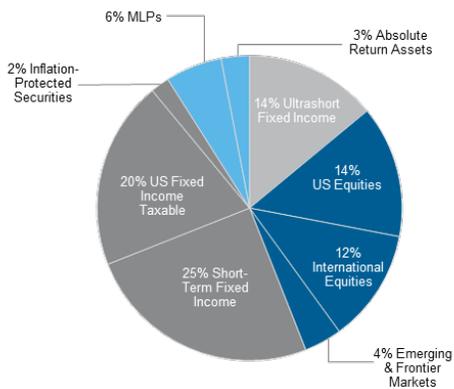
In the 22 years I've been doing this, I've lived through 10 bear markets with 20% declines and three with 50% declines. So while we will continue to have market cycles and volatility, I think the takeaway is that, in the long term, the emerging markets can offer a reasonable compounded rate of return because of the strong underpinnings. Look, the world is a big place. ■

Rajiv Jain 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.

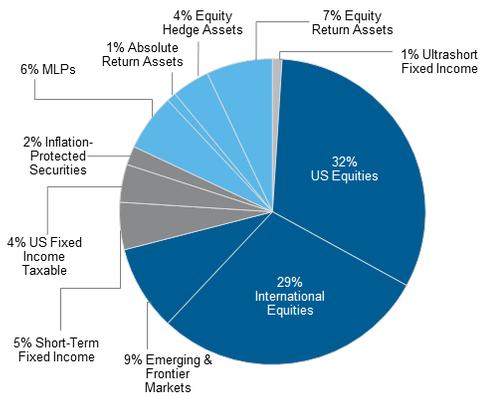
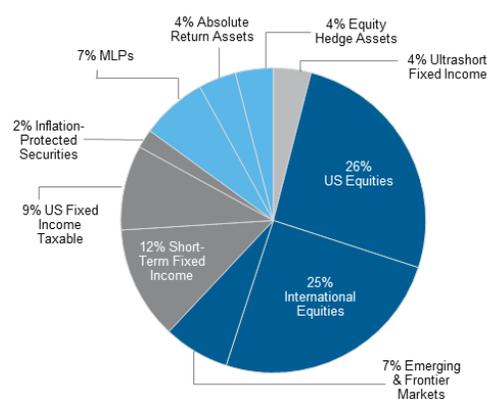
Global Investment Committee Tactical Asset Allocation

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.

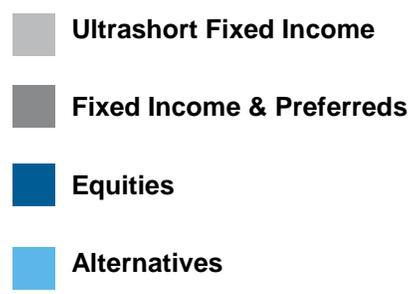
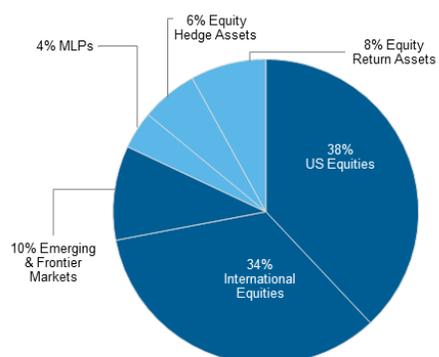
Wealth Conservation Income



Balanced Growth Market Growth

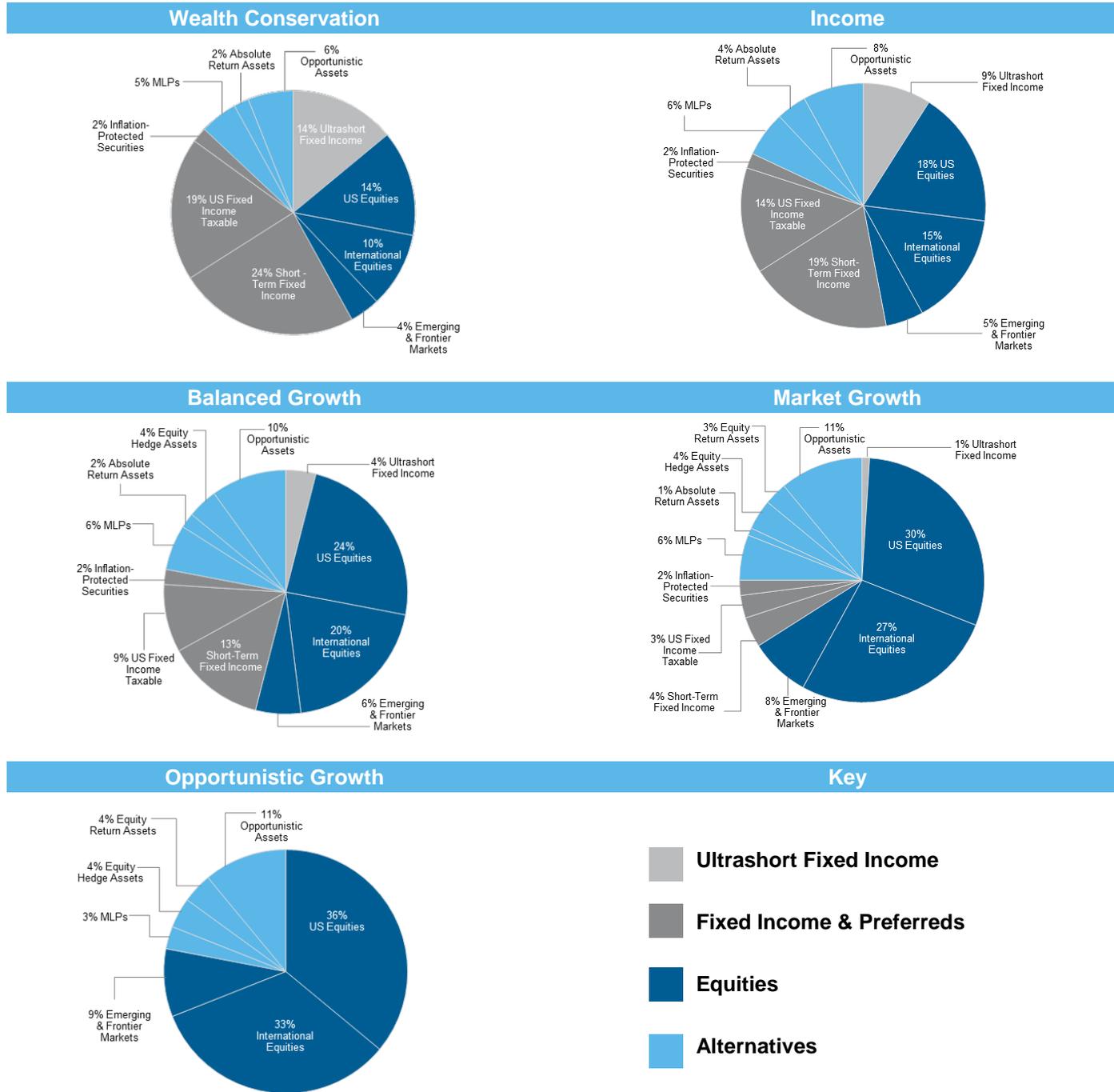


Opportunistic Growth Key



Source: Morgan Stanley Wealth Management GIC as of Jan.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.



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

Tactical Asset Allocation Reasoning

Global Equities		Relative Weight Within Equities
US	Underweight	US equities had a very difficult finish to 2018 after holding up better than other equity markets through the first three quarters. The highest quality market is always the last to fall and so we view the sell-off in US equities as a good sign that the worst of the cyclical bear market we expected at the beginning of 2018 is now behind us. We may look to upgrade US equities if the S&P 500 trades below 2,400 on a re-test of the lows made in December. From those levels, our target of 2,750 offers attractive upside.
International Equities (Developed Markets)	Overweight	We maintain a positive bias for Japanese and European equity markets. The populist movements around the world are likely to drive more fiscal policy action in both regions, especially in Europe, which will allow the central banks to exit their extraordinary monetary policies and valuations to rise.
Emerging Markets	Overweight	After a difficult first 10 months of 2018, emerging market (EM) equities have performed relatively well, a good sign for future leadership. With the US dollar appearing to have made a cyclical top, global nominal GDP growth should bottom in the first quarter as China's fiscal stimulus takes hold. This should disproportionately benefit EM equities.
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. With the Quantitative Easing era now over, long duration bonds are unlikely to provide the same level of portfolio diversification benefits as they have in the past. Therefore, we remain underweight long duration bonds.
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 the recent collapse in oil prices weighing on inflation expectations, these securities still offer relative value in the context of our expectations for global growth to accelerate, oil prices to bottom and the US dollar to top. In short, inflation risk is underpriced.
High Yield	Underweight	High yield bonds have recently fallen victim to the rolling bear market we predicted for global asset markets in 2018. They now offer better risk/reward but equities still look more attractive given their recent correction. With a zero weighting in high yield since January, 2018 we will be looking to add some high yield bonds to our allocations during 2019 if spreads continue to widen.
Alternative Investments		Relative Weight Within Alternative Investments
REITs	Underweight	Real estate investment trusts (REITs) have rebounded in the second half of 2018 as global growth fears returned and interest rates fell. However, REITs remain expensive and are vulnerable to credit risks. We will look to upgrade as nominal GDP bottoms and/or valuations become more attractive.
Master Limited Partnerships/Energy Infrastructure*	Overweight	Master limited partnerships (MLPs) rebounded sharply in the first half of 2018 only to give it all back as oil prices collapsed in the fourth quarter. With oil prices recovering again and a more favorable regulatory environment, MLPs should provide a reliable and attractive yield relative to high yield. The supply shortages from Iranian sanctions should also be supportive for fracking activity and pipeline construction, both of which should lead to an acceleration in dividend growth.
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. With the recent surge in volatility, these strategies should do better on a relative basis.

Source: Morgan Stanley Wealth Management GIC as of Dec. 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 other index, indicator and survey definitions referenced in this report please visit the following:
<http://www.morganstanleyfa.com/public/projectfiles/id.pdf>

Risk Considerations

Alternative Investments

The sole purpose of this material is to inform, and it in no way is intended to be an offer or solicitation to purchase or sell any security, other investment or service, or to attract any funds or deposits. Investments mentioned may not be suitable for all clients. Any product discussed herein may be purchased only after a client has carefully reviewed the offering memorandum and executed the subscription documents. Morgan Stanley Wealth Management has not considered the actual or desired investment objectives, goals, strategies, guidelines, or factual circumstances of any investor in any fund(s). Before making any investment, each investor should carefully consider the risks associated with the investment, as discussed in the applicable offering memorandum, and make a determination based upon their own particular circumstances, that the investment is consistent with their investment objectives and risk tolerance.

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 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

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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.

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.

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.

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.

Interest on municipal bonds is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). Typically, state tax-exemption applies if securities are issued within one's state of residence and, if applicable, local tax-exemption applies if securities are issued within one's city of residence.

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.

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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.

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.

ETF Investing

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.

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 economics.

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**.

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.

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

Besides the general risk of holding securities that may decline in value, **closed-end funds** may have additional risks related to declining market prices relative to net asset values (NAVs), active manager underperformance, and potential leverage. Some funds also invest in foreign securities, which may involve currency risk.

Companies paying **dividends** can reduce or cut payouts at any time.

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.

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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.

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

The **indices** are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment.

The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Smith Barney LLC retains the right to change representative indices at any time.

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.

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.

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