WEALTH MANAGEMENT

Morgan Stanley

GLOBAL INVESTMENT COMMITTEE / COMMENTARY

MAY 2017

On the Markets

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Another Brick in the Wall

A good friend recently attended a concert in New York City featuring Brit Floyd, a Pink Floyd cover band. He has seen the real deal many times and told me the show was as close to the original act as he could have imagined. Having grown up in the '70s and '80s, Pink Floyd was a staple on my homemade custom cassette tapes (for readers under 30, digital playlists and Spotify didn't yet exist). Every time I think of this band, I can't help but sing in my head, "All in all, it's just another brick in the wall."

Lately, I've found myself singing those lyrics in my head even when I'm not thinking about Pink Floyd. It feels like stock markets are plodding along with regard to events that have concerned some investors and much of the media. In the past six weeks, the market has absorbed a lot of body blows ranging from President Trump's inability to repeal and replace Obamacare to North Korea's growing threats. Even the market's concern about the risks around the French election was fairly muted going into the first round last month and has been drifting even lower as we approach the May 7 run-off.

Meanwhile, first-quarter GDP growth registered an anemic 0.7% and the Federal Reserve raised interest rates a quarter of percentage point in March—sooner than we and most market participants expected at the beginning of the year. Any or all of these items might be viewed as headwinds for equity prices, yet we continue to grind higher with relatively low volatility as the market apparently views these events/headwinds as just another brick in the wall of worry.

Earnings are what drive equity markets and earnings can often move opposite the direction of economic growth in the short term. That's because earnings cycles are determined by many things that have little to do with the economy—product innovation, cost management and mergers, to name a few. Our bullish view has been predicated on earnings growth surprising to the upside this year. Indeed, with 60% of the S&P 500 companies having reported so far, the first quarter is proving to be the fastest period of sales and earnings growth in five years, with some of the best breadth across industries. This leads me to conclude "we don't need no thought control" from the media or anyone else telling us it's all about to come crashing down. ■

Classic Late Cycle

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Although optimism is a late-cycle phenomenon, history tells us the best returns often come at the end. It has taken eight long years to get here, but Wall Street and Main Street are finally starting to feel a bit better about the future. The cyclical upturn that began a year ago has less to do with President Trump and more to do with the global business cycle that bottomed in the first half of 2016. Trump simply "turbocharged" the cycle and stoked animal spirits on Wall Street and Main Street, with tangible effects on the real economy and markets.

Following Trump's surprise win, the S&P 500 gained 12% by March 1, stopping just short of 2,400. There was a modest pullback of less than 3%, much of which has now been recovered. We continue to be bullish because equity valuation remains undemanding in what is still a low interest rate world.

FOCUS ON FUNDAMENTALS. How will we get there? Focus on the fundamentals that will ultimately drive stock prices, namely economic and earnings growth and interest rates. First, on the economy, there is a growing debate about whether the "soft" data—think consumer/small business confidence and purchasing manager indexes—will be followed by the "hard" data that measures actual economic activity (see page 10). Our view is that the hard data are coming through. Global economic growth and inflation have been surprising on the upside at the highest rate we have observed during the past decade. Finally, it's important to point out that the economic recovery we are experiencing is global and the most synchronous since the financial crisis in 2009. With all the skepticism on Trump's ability to "make America great again," how does one explain the fact that Europe, Japan and the emerging markets seem to be improving at even a greater rate? Clearly, something bigger is afoot, and we think it makes sense to focus on these more important and measurable trends.

Second, earnings estimates and growth have been improving at a rapid clip for more than a year. The consensus bottom-up 12-month forward earnings-per-share (EPS) estimate and the year-over-year rate of change for the S&P 500 both bottomed in first quarter of 2016 and have since steadily increased; forward 12-month EPS are now at $135.10 and year-over-year growth is expected to be close to 10% for the first quarter of 2017. Importantly, revenue growth has been increasing, too, and is now expected to be close to 8% year over year in the first quarter—the highest since 2012. Given the breadth of earnings and of the stock market during the past six months, combined with our proprietary leading earnings indicator, we are confident the forward 12-month forecast for S&P 500 EPS can continue to increase for the next six to nine months, in line with or better than the current bottom-up consensus trend.

GOOD UNTIL AUGUST. Specifically, by August, the estimated forward 12-month EPS for the S&P 500 should be close to $142 (see table). Why did we pick August? Beyond August we have less confidence in the bottom-up forecasts, as we do not know how much of the proposed tax cuts, fiscal stimulus and other progrowth legislation is baked into the numbers, and we don't want to give too much credit for that in setting our base-case target. August also happens to be the Trump administration's self-imposed deadline for tax reform, the single biggest driver of upside for the earnings estimates from that point forward, in our view.

We frequently hear that the current forward price/earnings (P/E) multiple for the US stock market is exceptionally high. At an 18 P/E, that is a factual statement, but not necessarily an accurate one. Based on the past 40 years, the P/E ratio for the top 500 US stocks has ranged between six and 32, and 18 ranks in the 87th percentile. However, such a cursory statement does not take into account the exceptionally low interest rate environment. Comparing P/E ratios today with those in the early 1980s—when interest rates were in the double digits—is comparing apples and oranges.

EQUITY RISK PREMIUM. Therefore, we prefer using the equity risk premium (ERP), the excess return stocks provide over a risk-free rate. Even though it is extremely volatile over time, it's a good comparative metric for pure value. Here,

MS & Co.'s S&P 500 12-Month Price Target

Landscape	Earnings	P/E Ratio	Price Target	Upside/ Downside
Bull Case	142.00	21.1	3,000	25.8%
Base Case	142.00	19.0	2,700	13.3%
Bear Case	126.50	16.6	2,100	-11.9%
Current S&P 500 Price			2,384	

Source: Thomson Reuters, MS & Co. Research as of April 28, 2017

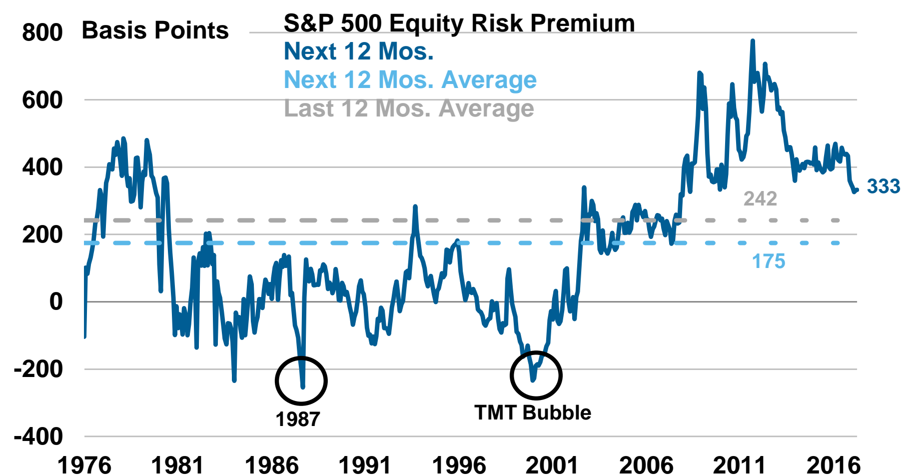
one can see that valuations are not rich compared with history, but are not nearly as cheap as they were following the financial crisis, either (see chart). By our calculations, the ERP today is approximately 330 basis points. This compares with an average of 175 basis points for the past 40 years—a period that includes the late 1980s and 1990s and the years of irrational exuberance. Looking at the past 100 years, the trailing ERP has been approximately 240 basis points.

We conclude there is room for further compression, or that valuation could expand by one to two P/E multiple turns to 19 or 20 as long as the 10-year US Treasury yield doesn't rise much above 2.75%, the target of Matthew Hornbach, Morgan Stanley & Co.'s head of global interest rate strategy. An ERP of 250 basis points with a 2.75% Treasury yield implies a P/E multiple of 19. Applied to the projected $142 12-month S&P 500 bottom-up earnings forecast that we see in August gets us to a 2,700 target.

In a world of emergency monetary policy, great uncertainty around future growth, and the risk of deflation, it makes sense that there should be an abnormally high ERP and spread between our fair value for the S&P 500 and the actual price. However, if one believes we are entering a different regime and exiting the postcrisis period, then ERPs should fall and equity prices can finally reach their fair value. Indeed, that is exactly what started happening last year when we think markets began to recognize the world is normalizing. We expect this to continue.

Still, we are in the late part of the cycle, and our sector/style preferences reflect that (see table, page 3). We are overweight financials, industrials, energy and technology. We are underweight real estate, telecom and consumer staples. We are neutral on health care, materials, consumer discretionary and utilities. We have a preference for small- and mid-cap stocks.

Equity Risk Premium Plunged During the Valuation Bubbles of 1987 and the Late 1990s



Note: S&P 500 fundamentals are used post March 1993. Top 500 by market cap data used before 1993. Long-term equity risk premium is since 1920. Equity risk premium is based on forward earnings yield and 10-year US Treasury yield.
Source: FactSet, Bloomberg, MS & Co. Research as of April 25 2017

WHAT COULD GO WRONG? Of course we must ask, what about the risks to our forecast? Start with the Federal Reserve. In our view, there may be less headroom for further Federal Reserve rate hikes this cycle than is commonly assumed. That's because this tightening cycle began in 2014 with the tapering of Quantitative Easing, not with the December 2015 rate hike as many people think. If the next one or two hikes quash the recovery, it could impact our forecast. Next, keep an eye on commercial real estate and autos. For the economy, they serve as proverbial canaries in the coal mine, and there are signs of stress in those sectors that could spill over into broader credit markets.

Oil prices are still a risk, too. They could fall further and/or take longer than expected to recover—and we estimate the energy sector to be the single largest incremental driver of S&P 500 earnings growth this year. A flagging energy sector could also have a knock-on effect to drilling activity and hence capital spending on things like steel, machinery and other equipment used for oil production and transportation. Finally, the European Central Bank is not expected to start tapering its accommodative monetary policy, but it could happen this summer when political risks diminish in Europe. This could lead to a global taper tantrum like we experienced in 2013. Such a rate shock could prevent the S&P 500 from reaching our target, as equity prices would reach fair value at lower levels. ■

MS & Co.'s Sector Weightings and Rationales

	Sector	Rationale
OVERWEIGHT	Financials	The strong earnings story remains intact, driven by deregulation and cost-cutting. Financial services and banking deregulation can happen without congressional approval and may simply be more lenient enforcement of existing regulations rather than a complete overhaul and/or new legislation. The primary effect will likely be on required capital retention, which should lead to increased share buybacks and dividends, as well as loan growth and money velocity.
OVERWEIGHT	Industrials	Our industrial team's proprietary Capital Goods Momentum Index just surged to its highest reading since 2013. Importantly, it typically leads revenue growth and stock performance for the capital goods sector. As markets return to the global growth theme, industrials should outperform again. If we get actual evidence of increasing infrastructure spend, that will only add to the relative upside.
OVERWEIGHT	Energy	Energy is arguably fairly valued on a normalized earnings or on a price/book value basis. More concerning are earnings revisions, which have not kept pace with the stocks since oil prices bottomed last year. However, given the enormous cyclicality of the group, this is normal when the cycle turns, so we are willing to give it the benefit of the doubt. Finally, energy is a classic late-cycle sector, and it could offer a modest hedge against potentially rising geopolitical risk that leads to a spike in oil prices.
OVERWEIGHT	Technology	Technology is a diverse sector that includes stocks across the various styles (i.e., growth/value, small/large, quality/junk and defensive/cyclical). This is also exactly why we like it. It also has the best and broadest earnings momentum of any sector at the moment, and we think that could continue in a late-cycle environment of rising capital expenditures to offset labor costs and/or to grow the top line. On tax reform, tech could broadly benefit from any tax repatriation plan. It's a likely loser from a border tax, but that option is looking less likely.
UNDERWEIGHT	Real Estate	Real estate investment trusts (REITs) have benefitted disproportionately from Quantitative Easing (QE) and will likely suffer from its end, a rise in the federal funds rate and higher inflation expectations. The MS & Co. REITs team is also concerned about growth this year due to peaking occupancy and rents—not what typically happens at the end of the cycle when interest rates are rising. There is now the added risk of a real crack in retail-related commercial real estate, which could have spillover effects to the broader sector.
UNDERWEIGHT	Telecom	Earnings revisions have been drifting lower since the fourth quarter, as pricing remains tough and growth has stalled for wireless in front of the iPhone upgrade cycle. These stocks are also interest rate sensitive. On the positive side, the group would be one of the largest beneficiaries of a US corporate tax cut, but skepticism on whether it will happen has increased. In the meantime, MS & Co. telecom analyst Simon Flannery recommends towers and other infrastructure plays.
UNDERWEIGHT	Consumer Staples	However, earnings revisions have been deteriorating since last summer and the group underperformed in the second half of 2016. After a move higher in the first quarter of 2017, we expect consumer staples should underperform again in the second quarter given the modest rise we expect in the US dollar, interest rates and risk-taking.
NEUTRAL	Health Care	The repeal and replacement of Obamacare would have been disruptive for health care in the short term. We think this is one of the reasons why the sector has rebounded so much this year. Nevertheless, the group is no longer extremely cheap or so heavily shorted, and we still run the risk of some alternative restructuring later in the year—not to mention the uncertainty around what will ultimately happen.
NEUTRAL	Materials	With the global recovery intact, there should be plenty of stocks that do well, but it may not be enough to drive relative outperformance of the entire sector. Until some of our key inputs start to turn around, especially relative earnings revisions, we will keep the sector as a neutral overall. Within the group, we feel most confident about metals and mining broadly and select names within chemicals.
NEUTRAL	Consumer Discretionary	We think the group can do a little better this year as the hard data catches up to the soft data and credit growth picks up. In fact, so far this year, the overall sector has modestly begun to outperform the S&P 500 and has even broken the downtrend from 2015. The leadership is coming from housing, leisure, internet and auto parts. Except for auto parts, our analysts are constructive on these groups. The big laggard remains multiline retailers.
NEUTRAL	Utilities	Regulated utilities are bond proxies and so they have been a big beneficiary of QE. There is little doubt about their interest rate sensitivity, and earnings revisions have been weaker overall. Unregulated utilities look better, if one has a positive view on natural gas and interest rates. Overall, our view is neutral given our expectation for a modest rise in interest rates, which argues against bond proxies.

Source: Morgan Stanley & Co. as of April 10, 2017

Why Europe Really Is Different This Year

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Despite political concerns, European stocks, as measured by the MSCI Europe Index, have rallied 8.2% for the year to date and 24.3% since last year's Brexit lows (as of April 28). Has the market grown tired of politics after a stormy 2016, perhaps setting us up for complacency around several European elections later this year?

Not in our view. Recent economic data in Europe have come in about as good as can be cited since the beginning of the decade. Economic surprise indexes are near their highest levels since 2009, with business and consumer confidence indicators moving even higher. So, while the politics get all the attention, markets are looking past the political noise, instead focusing on something you may not see in the headlines: improving fundamentals.

BETTER FUNDAMENTALS. An improving economic backdrop should allow European companies to see their earnings grow in 2017. While this may not sound like a great feat, keep in mind that European companies have seen their earnings decline for six consecutive years; in fact, European earnings still sit about 40% below their 2011 levels. While there's been much discussion of the US "earnings recession" that ended last year after a mere six quarters of no growth, European stocks have been in an earnings depression for much of this decade.

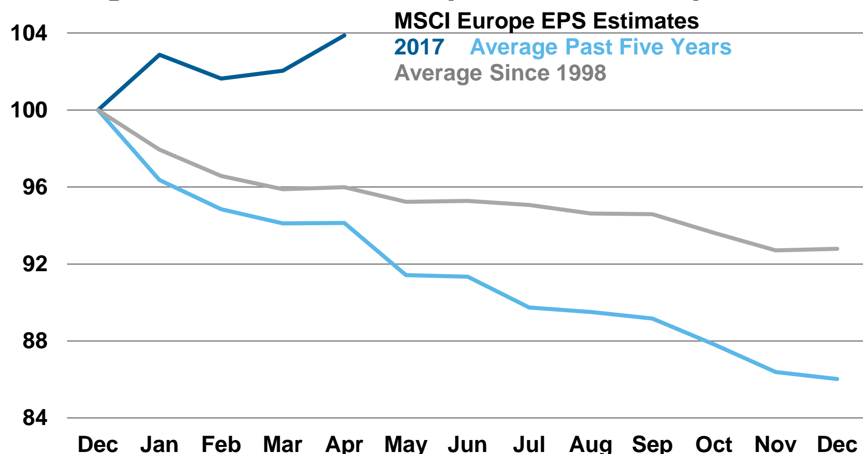
We see this depression ending this year. Graham Secker, Morgan Stanley & Co.'s chief European equity strategist, forecasts the MSCI Europe Index earnings gains of 16% in 2017. This potential growth simply isn't priced into stocks now as the MSCI Europe Index trades at just 15.2 times consensus forward 12-month earnings, a near 20% discount to the S&P 500. If companies post double-digit profit growth this year, with valuations where they are today, we expect shares to enjoy strong performance. With Europe having underperformed the US by 47% since 2010, the catch-up rally could be significant.

EARNINGS REVISION HISTORY. Heard this before? In January of each of the past five years, analysts forecasted growth in European earnings for the year ahead, only to see estimates cut during the year as data disappointed and companies posted lower results. However, this year has been different as estimates are enjoying upward revisions (see chart). The recovery in European earnings we forecast for 2017 is grounded in strong fundamental footing, and it appears to only be accelerating as the year progresses.

For sure, the political calendar will remain a source of risk. The final round of the French presidential election on May 7 and the German elections in September are likely the most circled dates on market participants' calendars. However, our case for European equities is built not on any breakthrough in politics but rather an improvement in economic and corporate developments. As such, we would look to any weakness around elections as opportunities to add exposure to European equities, so long as the fundamentals continue to improve.

The first round of voting in France on April 23 may be a good template: While European equities showed weakness in the days leading up to the vote, they rallied nearly 6% (in US dollar terms) on the day after the election. While perhaps not quite as dramatic, we would not be surprised to see similar action around the political calendar through the rest of the year. ■

Earnings Revisions in Europe Are on an Upward Path



Note: Indexed to 100 as of Dec. 31 of the prior year
Source: FactSet, Morgan Stanley Wealth Management GIC as of April 28, 2017

The Opportunity in Japanese Equities

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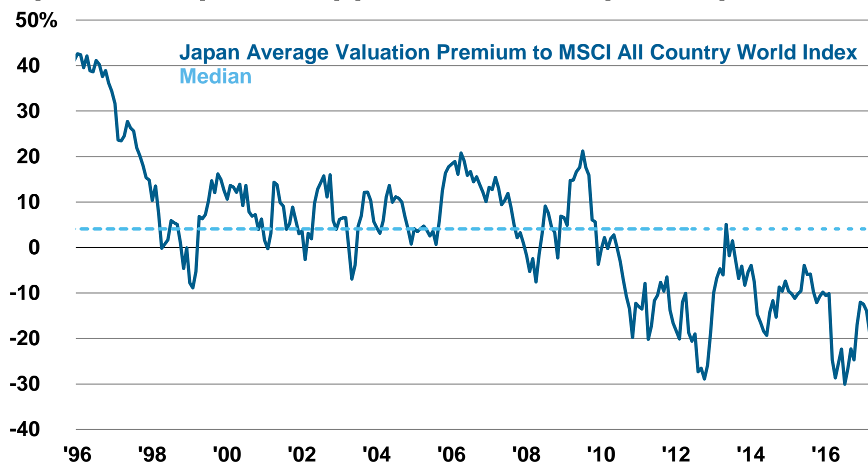
For nearly two months, global equity markets have churned: Volatility increased, and so-called safe-haven assets like gold, US Treasuries and the yen rallied. In fact, the yen is up more than 5% versus the US dollar since December. One of the victims of this risk-off move has been Japanese equities, which, as measured by the TOPIX, which is roughly flat for the year to date through May 1 (in local currency). What makes this odd is the case for Japanese equities is the strongest it has been in years.

STRONGER GROWTH. To begin with, Japanese economic activity is accelerating. The latest Tankan Survey is at its highest level since 2007, while real GDP growth for 2017 could hit 2%. Even though the yen has been a headwind this year, real goods exports managed to increase by 12.4% at a quarter-over-quarter annualized rate. That's the second consecutive quarter of double-digit growth and the highest volume in nine years. Japanese manufacturing success has been driven by companies leveraging the surge in global trade throughout Asia and the emerging markets; manufactured exports to China are up 16% for the year to date. Domestically, infrastructure and construction spending—part of a fiscal stimulus plan and the buildout for the 2020 Olympics—have also added to growth.

All of this should be positive for equities. Jonathan Garner, Morgan Stanley & Co.'s chief Asia and emerging markets equity strategist, forecasts the TOPIX will hit 1,770 this year—about a 15% gain. That's based on the expected 27% earnings-per-share growth for calendar-year 2017 and another 10% growth in 2018. Importantly, earnings revisions are among the strongest across all regions, and for Japan they're the best in four years. These estimates assume the current level of the yen, at 110 to the US dollar, will hold through mid-2017 before weakening to 125 by mid-2018.

Japanese Equities Appear Historically Cheap



Source: MSCI, IBES, MS & Co. Research as of May 1, 2017

HIGHER INFLATION. At its heart, Japan's growth story centers on increased inflation. While Japan has struggled with deflation for nearly 25 years, tight labor markets are poised to defeat it: March's jobs report pegged unemployment at 2.8%, a 22-year low. The implication is that average hourly earnings could reach a 3% annualized pace by 2018. Critically, MS & Co. analysts believe that the uptick in wages will not crimp corporate margins because productivity gains should offset increased compensation costs.

As inflation picks up, we expect the Bank of Japan to moderate its policy of targeting interest rates and managing the yield curve—slowly and methodically. After all, core CPI for 2017 is likely to hit 1.4%, below the 2% targeted level. In the short run, the result is likely to be a fall in real rates, which would bolster liquidity conditions, provide a constructive cost of capital and, thus, help to weaken the yen.

ABSOLUTELY AND RELATIVELY CHEAP. At current levels, Japanese equities are both absolutely and relatively cheap; the equity risk premium is about 7.8% and the forward price/earnings ratio is less than 13. Relative to the MSCI All Country World Index, their valuation is near an all-time low (see chart). Cash on balance sheets remains three-to-five times higher than other developed market peers, and corporate governance reforms are encouraging delivery of excess capital to shareholders via share buybacks, dividends and acquisitions. Even technical analysis supports the extent of the washout in valuations: Just 25% of the Nikkei 225 Index constituents are above their 50-day moving averages, which is typically a level that precedes mean reversion and retracement trades.

All told, it's best to watch first-quarter earnings surprises to see if they translate into more positive profit revisions. With Japanese equities, investors should seek a balanced exposure between exporters and domestic companies and—for now—the currency should remain hedged. ■

Just How Do You Make a Seven-Year Forecast?

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We spend weeks crunching economic and market-related data every year to develop our capital market assumptions. With them, we forecast average annual returns for the broad swath of asset classes that the Global Investment Committee uses in its asset allocation models. These forecasts also help us construct portfolios for clients seeking to invest with a seven-year horizon.

Given that financial markets are notoriously difficult to predict, how do we come up with seven-year forecasts? The details are in the paper, *Inputs for GIC Asset Allocation* ("Annual Update of Capital Markets Assumptions," March 2017). While the paper details our methodology, here we'll briefly illustrate by walking through the return estimate for global equities. The process consists of answering three questions:

What earnings will companies return to investors? At their core, financial assets retain value due to the income, both current and expected, that they provide. Within equities, this translates to profits that are distributed to investors through dividends and share repurchases. Measuring these levels over and above expected levels of inflation, we find that income from earnings of global equities have provided a 1.1% real return. That's the first step in our estimate.

What effect might valuations have? The pricing of the income provided by financial assets can vary widely over time. We have found that, when attractively priced, asset returns for the subsequent seven years have been higher, while richly valued assets have seen subdued returns in the ensuing period. To this end, we utilize two valuation metrics we find appropriate for multiyear horizons: the cyclically adjusted price-to-earnings ratio (CAPE) to measure company value versus the past seven years of earnings, and the equity risk premium (ERP) to assess the attractiveness of equity earnings relative to bond yields. Overall, we find global equities to be attractive on an ERP basis, but modestly unattractive when measured by the CAPE. Overall, valuation adds 0.6% to our real return estimate.

What is the likely path of the economy? We believe the next seven years will see neither significant expansion nor compression of corporate profit margins, so earnings growth should be in line with economic growth. To this end, we look at the estimated seven-year real economic growth rates of the world's regions, and weight them in line with their representation in a global equity index. Currently, we also assume a global recession at some point in the next seven years. This yields an estimated 2.2% real return.

Combining results from these three steps, we estimate global equities will return 3.9% on a real basis; adding in our inflation forecast of 1.9% over the next seven years leads to a 5.7% nominal return (see table). While this return may appear lackluster compared with our 8.9% very-long-term secular estimate (for 20+-year horizons), it remains attractive when compared with US investment grade fixed income, which comes in at just under 3.0%. The bottom line: Despite the extended age and slower growth rates of the current business cycle, as well as the prospect of a recession in the years to come, we believe owning equities will generate outperformance in your portfolio. ■

We Expect International Equities to Outperform the US in Next Seven Years

	Earnings		Valuation		Economic Path			
	Real Dividend Yield	Real Repurchase Yield	Price/Earnings Ratio	Equity Risk Premium	Growth Trend	Recession Impact	Inflation	Total
US Large-Cap Equities	0.8%	0.5%	-0.6%	0.1%	2.5%	-0.5%	2.0%	**4.8%**
Developed International Equities	1.0	0.2	0.0	1.7	2.1	-0.4	1.8	**6.3**
Emerging Markets Equities	0.2	0.0	1.1	0.3	4.7	-0.8	2.0	**7.5**
Global Equities	0.8	0.3	-0.1	0.7	2.7	-0.5	1.9	**5.7**
European Equities	1.4	0.0	-0.2	2.0	1.9	-0.4	1.7	**6.4**
Japan Equities	1.3	0.6	0.5	2.0	1.0	-0.3	1.0	**6.1**
Asia Pacific ex Japan	0.4	0.1	-0.1	0.6	3.4	-0.6	2.0	**5.8**

Source: Robert J. Shiller of Yale University, Standard and Poor's, Bloomberg, FactSet, Haver Analytics, Datastream/IBES, Morgan Stanley Wealth Management GIC, Morgan Stanley & Co. as of March 10, 2017

Credit Slowdown No Cause For Concern (Yet)

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In recent months, much of the US economic data has been surprisingly strong—but not all of it. Total loans and leases by US commercial banks, notably commercial and industrial (C&I) loans, have slowed sharply. Based on the weekly data published by the Federal Reserve, overall bank lending has slowed to less than 4.7% in mid-April from about 7.5% at the beginning of the fourth quarter of 2016. The decline in C&I loan growth is even more dramatic. The latest number is 3.1%, or more than halved since the beginning of 2017 (see chart). We have not seen such a sharp deceleration in bank lending to US corporations since the financial crisis. This could be significant, as C&I loans, alongside consumer credit and mergers and acquisition (M&A) activity, feed into our US cycle indicator.

Even though we do not read too much into weekly data points, the sharp slowdown in credit creation could be an early warning signal on US economic growth (see chart, page 9). The plunge could reignite fears that a highly leveraged US corporate sector may react strongly to even limited interest rate increases. It could also reflect a rise in policy uncertainty, though that would be at odds with our proprietary US Capex Plans Index.

One important factor could be that high yield issuance has risen sharply compared with last year. Hence, a drop in C&I loans, which in large part consist of lending to high yield companies, likely reflects an opportunistic refinancing wave. In this context, it is worth noting there is a flattering base effect at play, given difficult market conditions in early 2016.

SLOWING M&A. Furthermore, M&A has fallen significantly as companies have waited for clarity on potential tax-law changes. Our US banks team reckons that C&I weakness could therefore persist into the second quarter of 2017. Separately, commercial real estate (CRE) lending also has been slowing since the start of the year, in part due to new risk-retention rules implemented in January, which likely has caused CRE lending to be pulled forward into the second half of 2016.

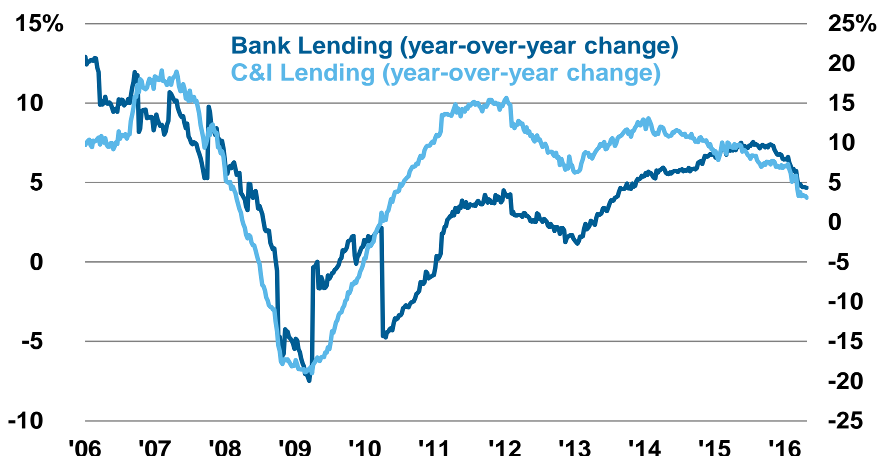
With these caveats in mind, we analyze the interaction between the US business cycle and the US credit cycle in detail. We conclude that investors will want to keep a close eye on the credit impulse in the US. On our estimates, the US credit impulse turned negative at the end of 2016. Such a negative credit impulse, if it were to persist, would normally constitute a warning signal regarding the US economic outlook. Reassuringly, however, our US banks team reckons that C&I growth, although slower in the first half of 2017, will still be at a solid 5% on an annualized basis and will likely accelerate in the second half.

In addition, there are a number of fundamental reasons that would argue against a US downturn at the current juncture. These include upcoming fiscal policy stimulus (notably corporate tax reform), planned regulatory relief for the banking system and a Federal Reserve that fine-tunes its policy to financial conditions. Finally, two related early warning indicators—narrow money-supply growth and the yield curve—are not flashing red, or amber for that matter, at the moment.

CYCLICAL PATTERNS. Let's start with reviewing some stylized facts on the US credit cycle. Credit typically lags at the trough of the business cycle, leading to "creditless" recoveries. It usually leads at the peak of the cycle, as US downturns are typically preceded by a deceleration in credit creation—or worse, an outright credit contraction. This pattern also holds more broadly across the developed markets.

Our analysis shows that US recessions are typically preceded by a slowdown in

A Sharp Decline in US Lending Growth Could Be a Cause for Concern



Source: Federal Reserve Board, MS & Co. Research as of April 19, 2017

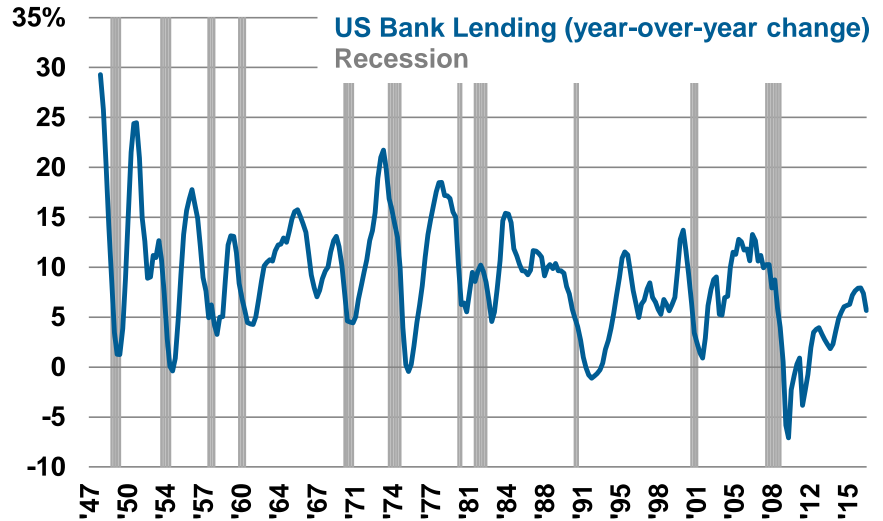
bank lending, a contraction in money supply and an inversion of the yield curve. To capture the deceleration in credit creation more explicitly, we look at the so-called credit impulse—the change in new credit issued as a percentage of GDP. The credit impulse may have a closer relationship with GDP or domestic demand growth than credit growth itself. This is because GDP is a so-called flow variable describing income or production generated over a period, while credit outstanding is a stock variable. Hence, credit only becomes comparable to GDP growth once we look at the change in the credit flows.

This means that faster growth or a slower contraction in credit both support GDP growth. Equally, slower growth and a faster contraction in credit can weigh on GDP growth. A rebound in domestic demand can therefore coincide with ongoing deleveraging and a credit contraction, and a credit-induced slowdown is possible even if credit expands and leverage increases.

This is exactly what we might be observing at the moment, making the sharp slowdown in US credit creation in early 2017 a possible cause for concern. On our estimates, for the first time since December 2013, the credit impulse became negative at the end of 2016. The data suggest that the credit impulse has likely contracted further in early 2017 and, typically, the US economy has seen at least two quarters of a negative credit impulse ahead of past recessions (with the notable exception of the financial crisis).

FALSE SIGNALS. As the credit impulse is more volatile than bank lending growth, it is also more susceptible to false signals—for example, in the early 1950s, the mid 1960s, the late 1980s, the mid 1990s and, more recently, in 2013. While these episodes did not end in full-blown recessions, they were all followed by sharp slowdowns in US growth.

Credit Downturns Tend to Precede US Recessions



Source: Federal Reserve Board, MS & Co. Research as of March 31, 2017

Part of the slowdown in bank-lending growth could be due to a shift to corporate debt issuance and away from bank loans. We are trying to capture such shifts in a broader metric of the credit impulse that also includes debt issuance. Unfortunately, US issuance data don't go back over the entire postwar period we are analyzing here, especially for high yield. A comparison between past history of a wider measure of the credit impulse that includes debt issuance and a narrow metric based only on bank lending shows a similar cyclical pattern and confirms the plunge at the current juncture. However, we note that there is a crucial difference between bank loans and debt issuance: Only bank loans can create new deposits; debt issuance mainly matches existing deposits and investment projects.

PREDICTING GDP GROWTH. Given the mixed track record, academics cannot agree on the role of money and credit in predicting US GDP growth. In the absence of a consensus, it was widely held that the yield curve contains all relevant information to forecast GDP. In our view, the prominence of the yield curve does not contradict the relevance of the credit cycle. Since banks borrow short and lend long, a flatter yield curve causes new loans to become less profitable. The resulting decline in credit supply will likely weigh on economic activity. Furthermore, the relationship between the yield curve and economic growth has weakened since the mid 2000s. Since the financial crisis, narrow money supply, alongside certain credit variables, has likely acquired stronger forecasting powers than the yield curve. That said, an inverted yield curve still seems to reliably indicate recession risks—in late 2006, it correctly anticipated the recession of 2007, while lending didn't.

To sum up, the downturn in US credit creation—especially the negative credit impulse—could be reason for concern if it persists for a few more quarters. In addition, two other important warning signals—narrow money-supply growth and the US yield curve—remain positive. With the empirical pattern presented here in mind, investors are probably best advised to keep an eye on money, credit and the yield curve when it comes to gauging the risk of an economic downturn in the US in the coming quarters. At least, this is what we will be watching. ■

Hard Data, Soft Data—Our Take

ELLEN ZENTNER
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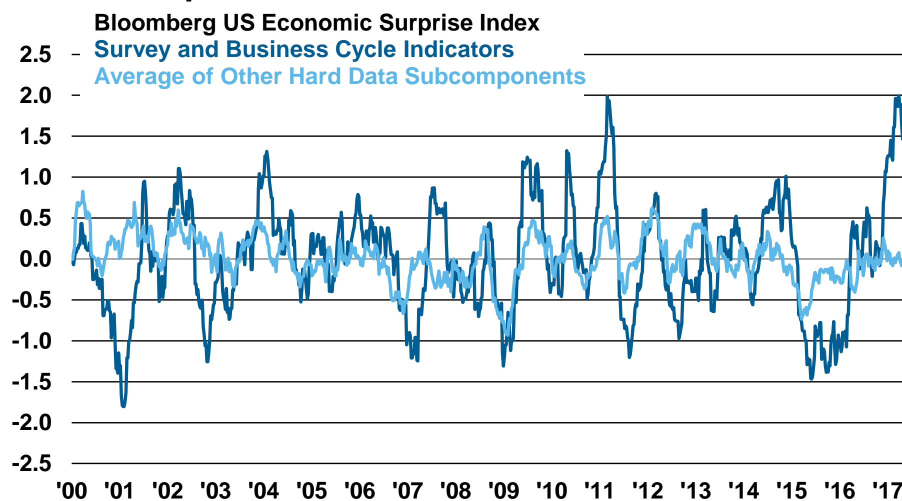
Markets and investors are awash in economic statistics, and from this deluge of data they try to plot the economy's path. Broadly speaking, there are two types. "Soft data" come from surveys of sentiment such as the University of Michigan Consumer Sentiment Index or the NFIB Small Business Optimism Index. "Hard data," on the other hand, can be quantified based on economic activity and includes such numbers as jobs, wages and retail sales. There's been a good deal of attention paid to the postelection divergence between the soft data and the hard data. While both can be captured by looking at the Bloomberg US Economic Surprise Index, it gets more interesting when we separate the hard and soft components (see chart).

WIDE GAP. Even though the gap has narrowed a bit of late, the divergence is still stunning. Upside surprises appear to be completely driven by the soft data, while the hard data are simply coming in about as expected. This was underscored by the fact that Federal Reserve policymakers made little revision to their forecasts at the March FOMC meeting. Essentially, the hard data are unfolding in line with the Fed's 2017 outlook.

We offer an additional compelling take on capturing this divergence. Compare the New York Federal Reserve Bank's first-quarter GDP tracking, which had been at 2.7% while the first official reported figure was 0.7%. The difference is larger than usual and was being driven by the fact that the New York Fed incorporates soft data into its tracking (attempting to tie it econometrically to GDP—a very hard thing to do, especially in real time). Our method translates the incoming hard data into its GDP equivalent. Note that the Atlanta Fed's GDPNow tracking also focuses on hard data and had been tracking 0.2% for first-quarter GDP.

Record Gap Between the Hard and Soft US Data



Source: Bloomberg, MS & Co. Research as of April 28, 2017

TRANSITORY INFLUENCES. There are transitory factors we see weighing on first-quarter GDP. In particular, there is a large inventory drawdown and softness in consumer spending, primarily owing to higher gasoline prices. What's more, we expect acceleration in headline GDP to above 3% in the second quarter. If we are right, the US economy will average around 2% growth in the first half of 2017, which is roughly in line with our expectation, and the Fed's, for full-year 2017 growth.

When Chair Janet Yellen was asked in March about low indications for first-quarter GDP growth, she said, "GDP is a pretty noisy indicator. If one averages through several quarters, I would describe our economy as one that has been growing around 2% per year, and you can see from our projection that's something we expect to continue over the next couple of years." Importantly, the Fed's two more hikes envisioned for 2017 are based on its outlook coming true. So far, so good.

RECONCILABLE DIFFERENCES. Will the hard and soft data reconcile, and in what direction? Optically, a second-quarter GDP bounce back would perhaps be taken by markets as the hard data correcting to the soft data—in other words, risk appetite may find renewed inspiration as positive hard data unfolds. Still, from an economist's point of view, smoothing through the volatility simply looks like the outlook for around 2% growth remains intact. Moreover, we do expect that the breadth of the second-quarter rebound in hard data will be fairly limited, with a swing in consumption as the main driver of the expected upside surprise, followed by a slightly better net trade and inventory profile. As a consequence, we would not necessarily expect hard data surprise indexes to start racing higher if the factors behind the second-quarter growth rebound remain, as we expect, narrowly confined to a few sectors. ■

Bond Laddering for Steady Income and Muted Volatility

CHARLES SCHIFANO

Fixed Income Strategist
Morgan Stanley Wealth Management

During the past five years, interest rates as measured by the benchmark 10-year US Treasury have traded as high as 3.03% in late 2013 following the "taper tantrum" that took place after the Federal Reserve said it would start to dial back Quantitative Easing. They went as low as 1.36% in the summer of 2016 following Brexit, the UK's vote to leave the European Union. One thing we have learned in these past five years is staying in cash and waiting for the right entry point or trying to time the market has not worked, leaving investors looking for ways to smooth out returns while being fully invested. A bond ladder strategy may fit the bill.

CONSTRUCTION PLAN. A bond ladder can be built with US Treasuries, US agencies, corporate bonds, municipal bonds or even certificates of deposits. It consists of a simple portfolio construct whereby each issuer or municipality is equally weighted by maturity. In a five-year ladder, for instance, the maturities would be staggered as follows: 2018, 2019, 2020, 2021 and 2022. Hence each year represents a rung on a ladder, and the higher the ladder the more maturity rungs. A five-year ladder would have five rungs and a 15-year ladder will have 15. With a normally sloped yield curve, a five-year ladder will exhibit less interest rate risk and generate less income versus a 15-year -ladder, but both structures allow for diversification, cash flow management and reduced reinvestment risk.

As a risk-management tool, bond laddering works because of the annual maturity dates. Consider our hypothetical five-year ladder. When the shortest-term bond matures, the proceeds are immediately reinvested in the highest (or farthest out) rung on the ladder, or 2023. Thus, in a rising interest rate environment, this process of maturation and reinvestment dampens interest rate risk as all bonds are held to maturity and the proceeds are reinvested at the higher prevailing interest rate.

BLENDED YIELD. How much yield is generated? In the first year, the blended yield on the hypothetical portfolio is 1.75%. If, between Year 1 and Year 2 interest rates rise by 75 basis points and the yield curve makes a parallel upward shift, the portfolio's yield increases to 2.10% from 1.75%. This increase of 35 basis points in yield was accomplished simply by reinvesting the proceeds of the matured bond into the farthest rung of the ladder in 2023, capturing the higher prevailing market yield.

What if interest rates fall? Laddering still makes sense because the portfolio has locked in some higher yield bonds at the highest rungs, which helps to smooth out the returns over time.

Bond laddering is also a good tool for cash-flow management. If an investor wants to receive specified monthly or quarterly income, the ladder can easily be tailored to achieve that goal based on the coupon payment dates of the bonds selected. ■

How a Five-Year Bond Ladder Works

	Maturity Year					
	2018	**2019**	**2020**	**2021**	**2022**	**2023**
Bond 1	1.25%					
Bond 2		1.50%				
Bond 3			1.75%			
Bond 4				2.00%		
Bond 5					2.25%	
Blended Portfolio Yield 1.75%						
One Year Later						
Matured	X					
Bond 1		1.50%				
Bond 2			1.75%			
Bond 3				2.00%		
Bond 4					2.25%	
Bond 5						3.00%
Blended Portfolio Yield 2.10%						

For illustrative purposes only
Source: Morgan Stanley Wealth Management

Relatively Speaking

MATTHEW GASTALL

Municipal Bond Strategist
Morgan Stanley Wealth Management

It's important to note that current municipal bond yields, at slightly north of 2% on AAA-rated bonds, would have been considered highly appealing at almost any point in the past three years. Of course, there was that interest rate spike after the presidential election that affected all bonds. Yields have since come down, but 10-year US Treasuries remain 40 basis points higher and top-rated 10-year munis are 60 basis points higher than before Election Day. Now, fixed income prices are strong and interest rates may descend if economic data disappoint and/or geopolitical tensions escalate, among other factors.

In fact, tax-exempt securities have actually outperformed US Treasuries in this bond rally for two main reasons. First, the recent failure of health care reform was viewed by many as a harbinger that the new administration's ambitions, which include fiscal stimulus and tax reform, may not be so easily achieved. Second, municipal investors anticipated a notable, albeit brief, respite in primary market supply during the April holidays. Overall, the 10-year relative-value ratio—the muni yield relative to the Treasury yield—stands near 92%, close to its lowest level of the year. Put another way, muni bonds are more fully valued.

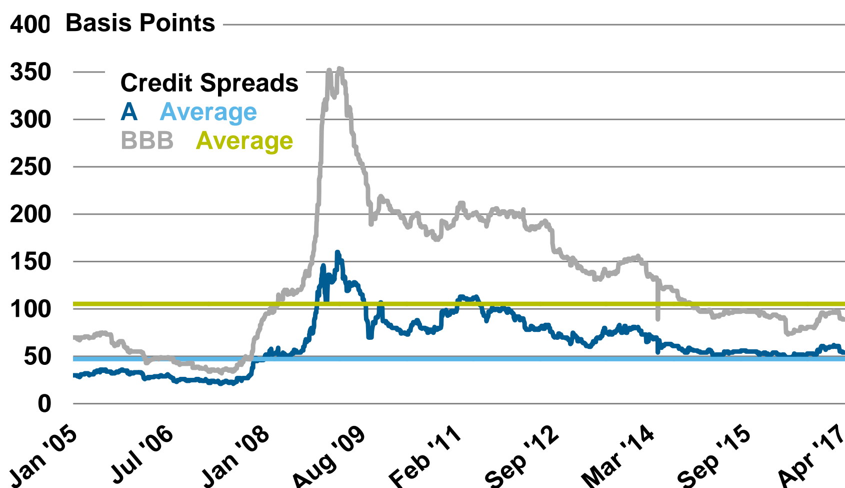
CREDIT COUNTS. Then there's credit spreads, or the yield difference between high- and low-rated municipal securities. Credit spreads still hover near or below historical averages, representing a tightening in yield caused by the improving economic backdrop and current low levels of net supply (see chart). For bonds with credit ratings of A, the spread is 54 versus a long-term average of 47. For lower-rated BBB credits, the spread is 89, well below the average of 105. To us, this means investors are receiving less compensation for taking credit risk.

Relatively speaking, muni bonds are not as attractive as they have been in recent months. As a result, market dynamics offer an opportunity for investors to conduct some portfolio maintenance. We continue to advocate investment in high-quality municipals and recommend that investors consider selling lower credits to buy higher-rated ones. If tax reform or fiscal stimulus plans cause Treasury yields to rise, munis may go with them. For that possibility, we favor above-market-coupon securities (+4.5%) with an overall short-to-neutral portfolio duration. Investors can achieve neutral duration by utilizing a bond ladder of evenly distributed short and/or intermediate maturities (see page 11); keep in mind that 80% of the yield curve is currently captured by year 13.

PRIMARY MARKET ACTIVITY. Next, keep in mind that primary activity has now returned to a healthy pace. With new-issue volume typically weak and bond redemptions heavy midyear, investors should watch for opportunities to add exposure gradually—especially during any periods of controlled rate weakness—before trading activity declines and seasonal effects become constructive in the summer.

Finally, we would continue to keep some cash for any periods of weakness incited by the details of tax reform. President Trump's tax plan announced on April 26 did not address the municipal tax exemption, but did call for lower rates for individuals—and in general, lower rates make munis less attractive. Still, the plan is just that, and it could take a long time to wind its way through Congress and look very different when it emerges. ■

Trade Up for High Quality on Tight Credit Spreads



Source: Thomson Reuters Municipal Market Data as of April 28, 2017

Taking the Pulse of Health Care

Andy Acker, portfolio manager of the Janus Global Life Sciences Strategy Fund, comes from a long line of physicians. "You could say medicine runs in my blood," he notes. Rather than follow in his family's footsteps, Acker chose to study biochemistry *and* economics—and pursue the business side of medicine. He remains excited about the health care sector despite its dismal performance last year. To be sure, the S&P 500 Health Care Index has seen a turnaround in 2017, with gains of 10.0% versus the S&P 500's 7.2% for the year to date (through April 28). "We think that makes sense," he explains. "There are strong long-term growth drivers. Health care also has noncyclical growth. It's more defensive. It's less correlated to overall market." Acker recently shared the many reasons why he remains bullish on the sector with Morgan Stanley Wealth Management's Tara Kalwarski. The following is an edited version of their conversation.

TARA KALWARSKI (TK): What major themes are driving the health care story right now?

ANDY ACKER (AA): One of the things that we've been seeing is an acceleration of innovation. The Human Genome Project, a global collaboration to sequence the first human genome, was completed in 2000 and it was celebrated as a great success. Biotech stocks did very well at the time. The problem is that it took 13 years to complete and cost $3 billion.

In terms of drug discovery, if it takes 13 years every time you want genetic information, it's not very helpful because the average time to develop a new drug is about 10 years. But since then, we've made dramatic improvements in productivity, to the point where now we can sequence a human genome in one day and do it for $1,000.

That's resulted in scientists having a much better understanding of the underlying genetic causes of disease. They can actually develop drugs that directly target those underlying genetic defects, and we're getting many more new drugs approved. In 2015, there were 45 new drugs approved, which was the most in 19 years. Last year there was a little bit of a lull, with only 22 drugs approved. This year we're starting to see a pick-up again, with 12 drugs approved in the first quarter and more than 25 pending at the FDA. As we see it, the level of innovation remains extremely high—and not just the number of new drugs that are being approved, but the quality of these drugs. We're starting to address some of the leading causes of death worldwide.

TK: What are some of the major examples?

AA: We're spending $800 billion a year treating heart disease, the number one cause of death worldwide. Just a couple weeks ago we had, for the first time, outcomes data from a new drug that can actually lower the rate of heart attacks and strokes. It lowered heart attacks and strokes by 20%—and we think that's even an underestimate of what the drug can do because the follow-up in the trial was so short. After the first year, heart attacks were reduced by 35%.

We're spending $300 billion a year treating cancer, the number two cause of death worldwide. We have these new immuno-oncology drugs that for the first time can harness the power of the immune system and directly attack cancer cells. The first of these therapies have now been approved, and last year they reached over $6 billion in sales after only a couple years on the market. This year, they could reach $9 billion.

We think we're just scratching the surface, because for many years new cancer drugs measured survival improvements in months. Now we're actually improving the tail of the survival curve, meaning that we can give people the chance to get a cure or a functional cure, in which the immune system can keep the cancer in check and a patient can live many years longer. For example, two-year survival with stage-four skin cancer was about 10% to 20% just a few years ago. Now, with a combination of new immuno-oncology agents, that has improved to 60% to 70%.

The good and bad of living longer, because we're better controlling heart disease and cancer, is that we're all at risk of getting dementia. The risk rate doubles every five years over the age of 60. Fortunately there are new agents in pivotal late-stage Alzheimer's trials, which look very promising and could reduce the progression of the disease.

TK: Beyond longer life spans, what demographic trends are worth noting?

AA: Every day there are 10,000 baby boomers reaching retirement age, and this will continue through 2030. So we have this massive increase in the elderly population in the US, which is important because the elderly spend three times as much on health care and four times as much on pharmaceuticals as the rest of the population. This is an inexorable driver of higher health care spending, not just in the US but worldwide.

We also have advancing middle-class populations around the world, and there's a high correlation between gross domestic product (GDP) growth and health care spending growth. So the wealthier a nation becomes the more of its GDP is spent on

health care, and we expect that to be a key driver in emerging markets.

TK: Why do you believe the sector performed poorly in 2016?

AA: I think the lull in new drug approvals, which I mentioned earlier, explains a lot of it—but on a three-year basis, the number of approvals is up substantially. The elephant in the room last year was drug pricing and the political cycle. There was a lot of noise that frankly freaked out generalist investors. They just were worried about drug pricing and the presidential election outcome, and avoided the sector.

These fears contributed to significant outflows, which also weighed on things, but health care was actually the third-fastest grower in terms of earnings in the S&P last year. Combined with significant declines on an absolute basis, the sector saw significant price/earnings (P/E) contraction. By the end of 2016, the forward P/E multiple for the S&P Biotech Index reached the lowest levels that we've ever seen.

So we were at very oversold levels at the beginning of 2017, but we've started to recover and, while health care has been one of the better-performing sectors so far, we're still at below-average valuations on an absolute basis. On a relative basis, we're at even bigger discounts.

What's more, health care has defensive characteristics. Looking at the sector over the past 20 years, health care on average fell almost half as much as the overall market during big corrections, which is a reason this sector typically trades at a premium.

TK: What could prevent health care's prospects from improving?

AA: Well, we had "repeal and replace," which we think less likely to go through now. Republicans are not really big supporters of cutting drug prices, but President Trump continues to tweet about these terrible drug prices and terrible drug companies, which has still created some hesitancy on the part of investors.

I don't want to say that nothing will change because there's been such energy and political capital focused on drug prices. Something should change, but it's more likely that the industry will come to the table and negotiate something reasonable. There's a perception that drug prices have been going up and that's what's been driving higher health care spending, and that couldn't be further from the truth. A recent study indicated that 75% of the increase in health care spending has been driven by hospitals and physician fees.

In fact, drugs have been only 10% to 20% of health care spending for the past 30 years, so you can't control health care spending only by lowering drug prices. In fact, pharmaceuticals often lower other health care costs because if you prevent someone from having a heart attack or a stroke, it has huge downstream benefits.

TK: While that's a good problem to have, does that become a long-term risk for the sector?

AA: I wish I could say we're going to cure every disease so we won't have anything to treat anymore, but the reality is there are more than 6,000 genetically identified diseases and we only have therapeutics to treat less than 5% of them. So we have many, many years to go in terms of curing all human disease so that we all live forever.

TK: What will separate the long-term winners and losers?

AA: What's becoming increasingly important is you really have to price for value. Pricing just because you can is not a sustainable model. I think we've learned that lesson the hard way over the past few years with some of the specialty pharmaceutical companies. If you take old drugs and just raise the price on them dramatically, you will be called out in the press and maybe even pilloried before Congress. It has to be companies delivering real innovation that's driving value to patients and driving value to the system. I think those are the companies that will win out in the end. Ultimately, the most innovative companies that bring the most value to the system will be the winners long term.

TK: How do you identify the potential winners while mitigating portfolio risk?

AA: We always have a balance of investments across the subsectors within health care: biotechnology, pharmaceuticals, health care services and medical devices. We have a minimum and maximum range for our investments within each of those subsectors, and we tend to stay within those ranges and then look for the best risk/rewards within each.

We currently have an overweight to biotechnology and an underweight to pharmaceuticals, which has been our historical trend over the last 18 years. This is because we see so much of the innovation is coming from the biotechnology sector—and specifically from smaller biotechnology companies. We have seen significant mergers and acquisitions in this sector and that's something we expect to continue.

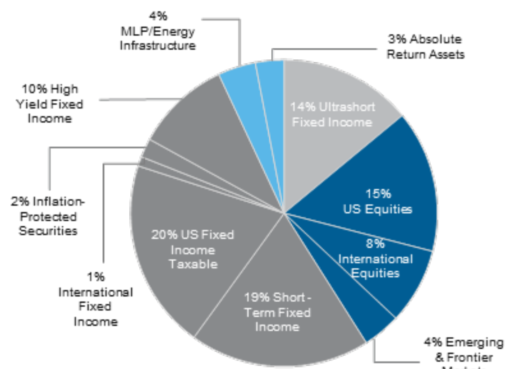
We call our framework for thinking about inflection points in value "the 90%/90%" rule. "First, of the drugs that move into human clinical development, 90% of them will never actually make it all the way to market. The first part of our process is trying to identify which drugs have what it takes scientifically to make it through all the clinical trials and regulatory scrutiny. For the ones that make it, the second part is commercial risk. In our experience, the consensus estimates from Wall Street for new drug launches are wrong about 90% of the time. They're either way too high or way too low. So the second part of our research process is trying to identify which drugs can exceed consensus expectations as they often drive significant shareholder value. ■

Andy Acker 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.

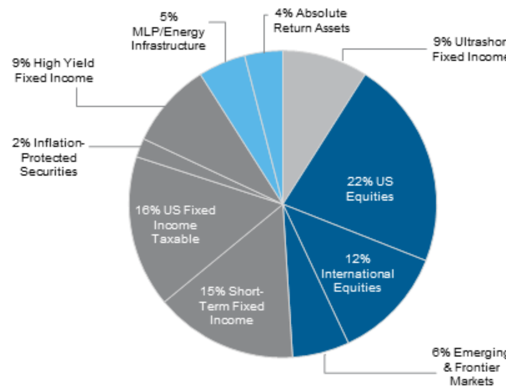
Global Investment Committee Tactical Asset Allocation

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.

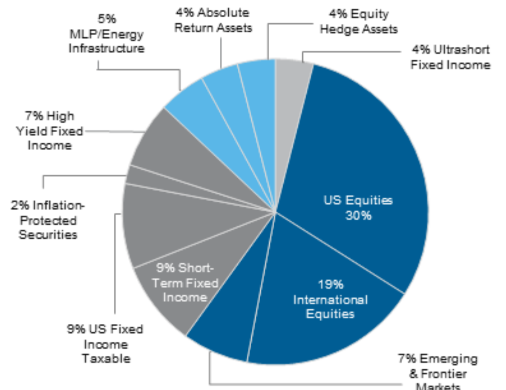
Capital Preservation



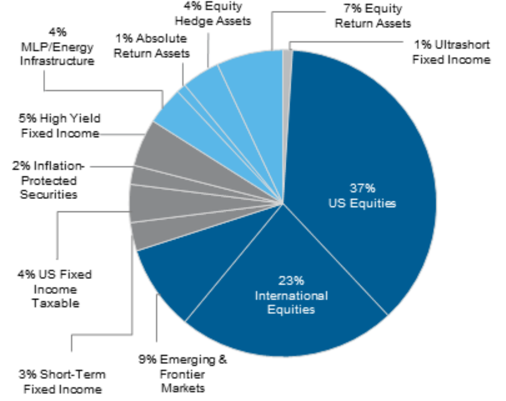
Income



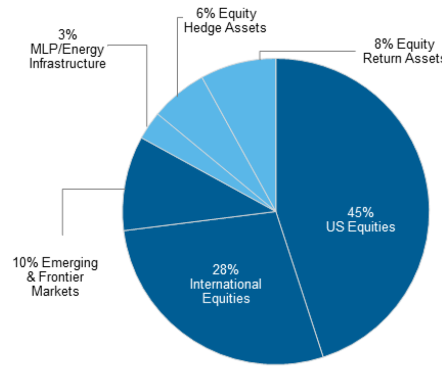
Balanced Growth



Market Growth



Opportunistic Growth



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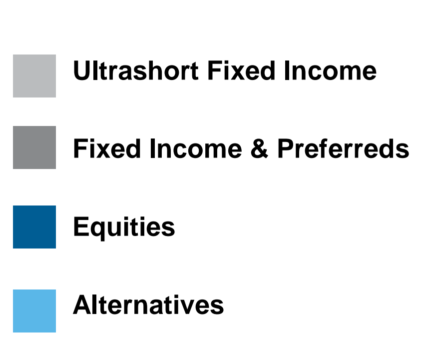

Source: Morgan Stanley Wealth Management GIC as of March 31, 2017

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.

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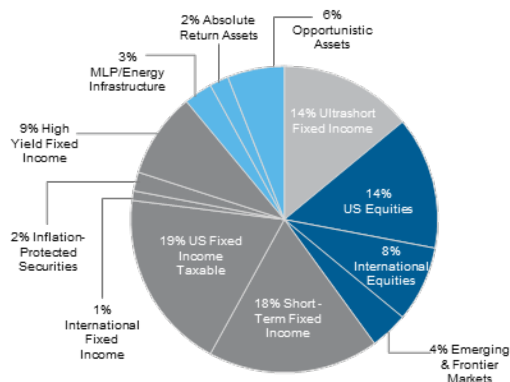

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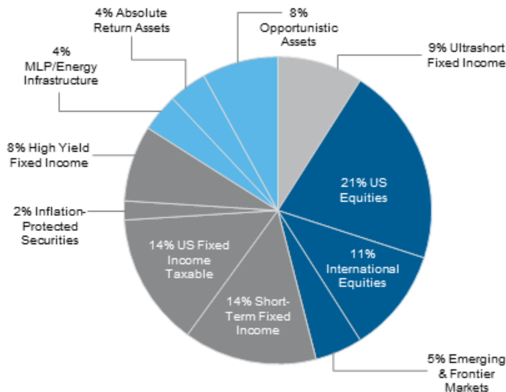
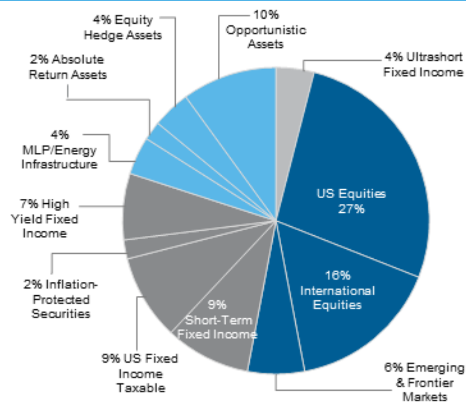
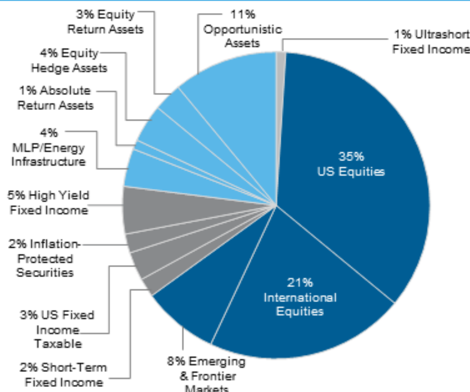


Balanced Growth



Market Growth



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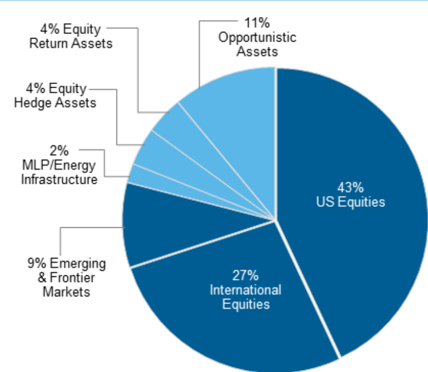

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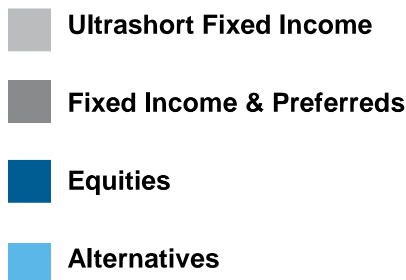

Source: Morgan Stanley Wealth Management GIC as of March 31, 2017

Tactical Asset Allocation Reasoning

Global Equities	Relative Weight Within Equities	
US	Overweight	While US equities have done exceptionally well since the global financial crisis, they are now in the latter stages of a cyclical bull market. This bull market was challenged during the past year by fears of recession and political events. With the recent Trump/Republican win, it appears that investors are getting more excited about potential growth and animal spirits are on the rise. This is likely to lead to the final euphoric stage of this cyclical bull market which could be quite powerful in 2017's first half.
International Equities (Developed Markets)	Equal Weight	We maintain a positive bias for Japanese and European equity markets despite the political challenges that both markets faced in the past year. Ironically, the populist movement around the world is likely to drive more fiscal policy action in both regions, which is desperately needed to make the extraordinary monetary policy offered in both regions more effective. Both are still at record levels of cheapness. We continue to recommend hedging currency risk for 50% of European and Japanese positions.
Emerging Markets	Overweight	Emerging market (EM) equities have been much better performers during 2016 than in the prior three years. However, new concerns have arisen with the recent strength in the US dollar and the rise in interest rates. With global growth and earnings accelerating and financial conditions remaining loose, we think EM equities will perform well again in 2017.
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. The Trump election win has inspired markets to think about inflation again. This has caused a meaningful rise in longer-term interest rates, a move that is likely 75% of the way done and should abate as the Fed raises rates this year. Within investment grade, we prefer BBB-rated corporates and A-rated municipals to US Treasuries.
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, expectations for oil prices and that the US dollar's year-over-year rate of change to revert back toward 0%. That view played out in 2016 but has not yet run its course.
High Yield	Overweight	The sharp decline in oil prices created significant dislocations in the US high yield market in 2015. Broadly speaking, we believe default rates are likely to remain contained as the economy avoids recession, while corporate and consumer behavior continues to be conservative. This has led to better performance in 2016, along with lower volatility than equities. We think this can continue but we are getting closer to being fully valued.
Alternative Investments	**Relative Weight Within Alternative Investments**	
REITs	Underweight	Real estate investment trusts (REITs) underperformed in 2016, but 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) were devastated during oil-price collapse and have rebounded sharply. As long as oil remains above $40 per barrel, they should provide a reliable and attractive yield. A Trump presidency should also be supportive for fracking activity and pipeline construction, both of which should lead to an acceleration in dividend growth. MLPs should be one of the strongest asset categories in the first half of 2017.
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 2017, these strategies should do better than in recent years.

Source: Morgan Stanley Wealth Management GIC as of March 31, 2017

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.

Glossary

CORRELATION This is a statistical measure of how two securities move in relation to each other. This measure is often converted into what is known as correlation coefficient, which ranges between -1 and +1. Perfect positive correlation (a correlation coefficient of +1) implies that as one security moves, either up or down, the other security will move in lockstep, in the same direction. Alternatively, perfect negative correlation means that if one security moves in either direction the security that is perfectly negatively correlated will move in the opposite direction. If the correlation is 0, the movements of the securities are said to have no correlation; they are completely random. A correlation greater than 0.8 is generally described as strong, whereas a correlation less than 0.5 is generally described as weak.

VOLATILITY This is a statistical measure of the dispersion of returns for a given security or market index. Volatility can either be measured by using the standard deviation or variance between returns from that same security or market index. Commonly, the higher the volatility, the riskier the security.

Definitions

MORGAN STANLEY CAPEX PLANS INDEX This is a three-month moving average of a population-weighted composite compiled from monthly regional Federal Reserve Bank surveys measuring six-month capital spending plans and tends to lead growth in equipment investment by about three months.

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 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.

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.

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.**

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.

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.

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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