2019 OUTLOOK & REVIEW

QMA's Global Multi-Asset Solutions Group

KEY POINTS

December 2018

Economic Outlook

- After a 2018 marked by US economic growth surprising to the upside against generally disappointing growth outside the US, we expect the divergence in global growth outcomes to narrow in 2019 as US growth moderates closer to potential.
- The global economy could bottom out, and growth conditions improve again sometime next year. Key sign posts that would confirm this view include a pause in tightening by the Federal Reserve ("Fed"), weakening of the US dollar, more decisive stimulus from China and evidence that global earnings will still rise after a very strong 2018.
- Within the US, strong consumer and business spending should at least put a floor under slowing growth. Odds of a US recession in 2019 remain quite low, and with inflation currently well-behaved, the Fed is likely to pause its tightening and potentially terminate it altogether by year-end.
- Growth in Europe should stabilize following 2018's deceleration and will continue to be challenged by political uncertainty. Italy could flirt with contraction as tensions with the European Union (EU) take a toll, while a more positive outlook for the UK hinges heavily on the final resolution of Brexit.
- Japan is likely due for another bumpy ride amid ongoing global trade tensions, slowing growth in China and the looming arrival of the October 2019 consumption tax.
- In emerging markets (EM), stabilizing currencies, the recent fall in oil prices and a more dovish Fed (if that occurs) would cushion the slowdown. US dollar-denominated debt loads remain an issue in certain countries, and China (as always) is a wild card.

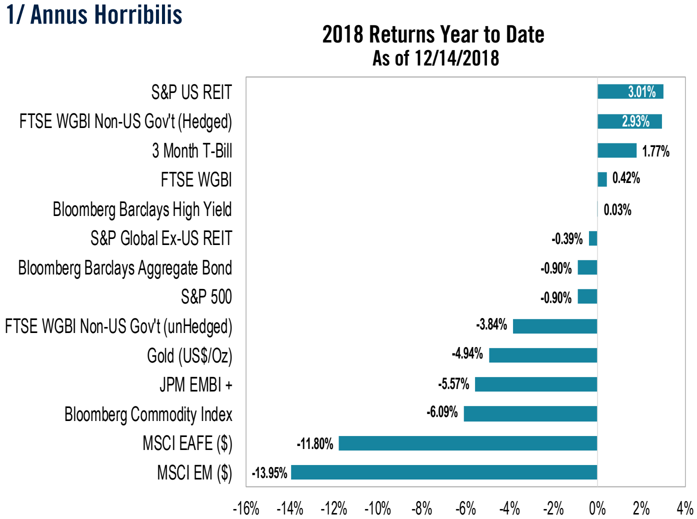
Investment Outlook

- We expect to approach the early part of the year cautiously but remain ready to shift toward more aggressive positioning on signs that an inflection point is forming.
- On a positive note, markets repriced significantly in 2018. Given this better valuation starting point, we expect overall returns for 2019 to improve but that volatility will remain elevated and risk-adjusted returns for risky assets will be modest.
- We look for US stocks to record gains in the low-to-mid single digits, roughly tracking our modest earnings growth expectations after 2018's gangbuster results.
- EM stocks could be solid outperformers, but probably not until after the Fed pauses, China delivers more stimulus and a weaker dollar emerges. We have reduced our overweight in the US and underweight in EM stocks. But we may yet find more attractive entry points for EM in the new year.
- We pulled in our horns a bit in Q4: moving to neutral in global equities, tempering out underweight in bonds, staying overweight cash relative to core bonds, and continuing to prefer real estate to Commodities.
- Within fixed income, we continue to cut back on high yield bonds as the risk-reward ratio there has deteriorated. We added to EM hard currency debt from US high yield recently on better relative value, but remain underweight pending the catalysts described above.

Are We There Yet?

2018 has turned out to be a very rough year for financial markets. In terms of losses, investors have definitely seen worse, but in terms of the breadth of assets failing to deliver decent returns, the year is a potentially historic one. Even in 2008, the depth of the Global Financial Crisis, there were a handful of asset classes with positive returns that beat US inflation. In 2018, REITS and non-US government bonds were the only two (Figure 1).

1/ Annus Horribilis



Source: QMA, FactSet.
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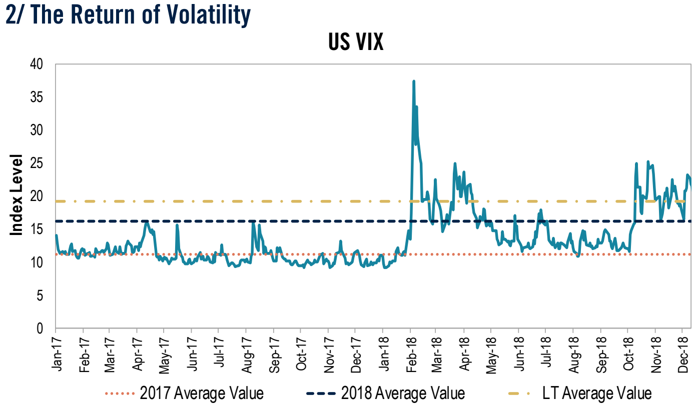
Past performance is not a guarantee or reliable indicator of future results.

Dismal returns have combined with a significant pickup in volatility, only adding to the unpleasantness (Figure 2). In 2017, the S&P 500 Index's largest drawdown (i.e., peak-to-trough decline) was less than 3%. In contrast, 2018 saw two drawdowns of at least 10%, the first time this has happened since 1990. As of December 14th, the MSCI EAFE and Emerging Markets indexes had seen even deeper drawdowns of 18.2% and 24.7%, respectively, straddling the technical definition of a bear market.

2/ The Return of Volatility

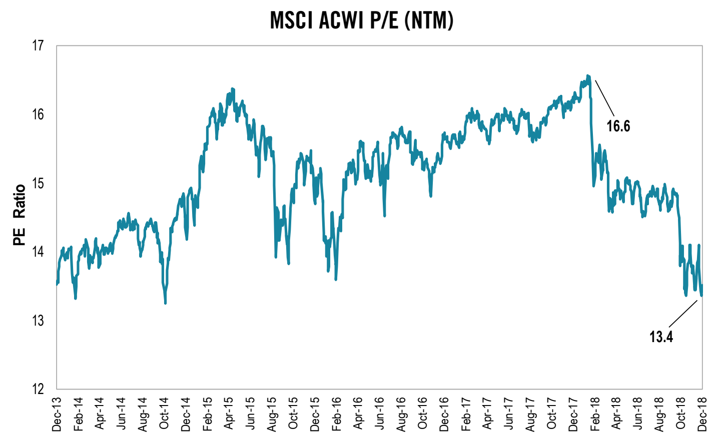


As of 12/18/2018.
Source: QMA, FactSet.

It is always a daunting task to peer 12 months into the future. We do it this year with even greater trepidation because of the number of wild cards that cloud the outlook. Will 2019 bring us a return to more placid and pleasant times, or are treacherous markets likely to stay with us as the calendar turns? Unfortunately, we think the latter is more likely given both the underlying trend of slower economic and earnings growth and the uncertainties related to Fed policy, trade tensions and a variety of political and geopolitical risks.

On the brighter side, markets have repriced this year to account for the greater uncertainty. Stock market valuations are lower, interest rates are higher and spreads on riskier debt are wider than 12 months ago. Figure 3 shows the significant decline we have seen in the price-to-earnings (P/E) ratio on the MSCI World AC Index during 2018, which peaked at 16.6 in January and has since declined to 13.4 — a 17% decline.

3/ A Valuation Reset



As of 12/12/2018.
Source: QMA, FactSet.

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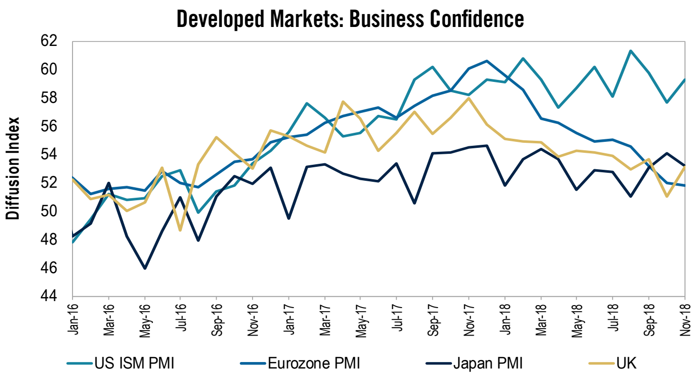
Given the better valuation starting point and our view that a recession is still unlikely, we expect returns for 2019 to improve over those of 2018. But we also expect volatility will remain elevated relative to the past several years, and risk-adjusted returns will be modest. Further, we believe that conditions could get worse before they get better. For US-based investors, cash will look increasingly attractive in this environment.

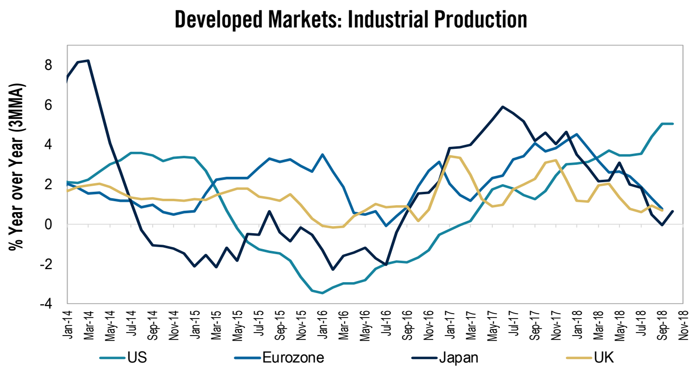
But things could get better as the year rolls on, and we are watching for inflection points that cause us to turn more bullish. The key sign posts would include a pause in the Fed's tightening cycle, a weakening of the US dollar, more decisive stimulus from China, signs of a bottom in global growth and evidence that earnings growth is hanging tough.

Global Economic Outlook

In contrast to 2017's global synchronized growth and upside surprise, 2018 saw global divergence and downside surprise. This divergence was characterized by strength in the US and weakness in the rest of the world (Figures 4 and 5). In 2019, we expect to see that divergence narrow as US growth moderates as the boost provided by fiscal stimulus in 2018 begins to fade on a year over year basis. As a result, we expect global growth also to slow (Figure 6), but more from the US falling back to the pack than other regions falling further behind.

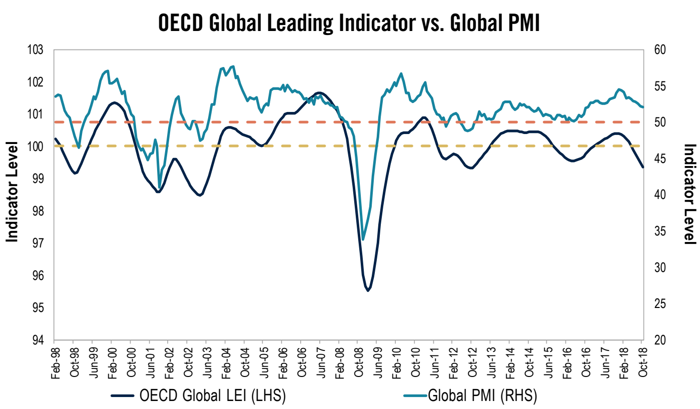
4 & 5/ 2018: A Year of Global Divergence





As of 11/30/2018.
Source: QMA, FactSet.

6/ A Broader Global Slowdown



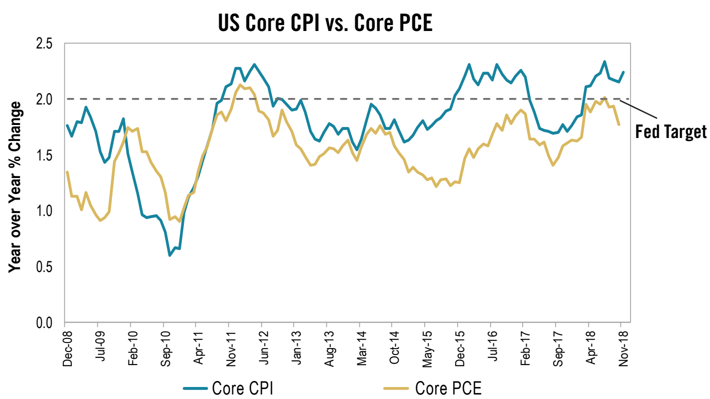
As of 10/2018.
Source: QMA, Thomson Reuters Datastream, OECD, J.P. Morgan.

US: Slower, if Not Exactly Slow

US growth in gross domestic product (GDP) will come off the boil with the fading of the Trump fiscal stimulus and the lagged impact of Fed rate hikes and a strong dollar. But the underlying fundamentals of the US economy should still remain relatively healthy in 2019. Steady job growth, low unemployment and healthy wage gains should at least provide a floor under consumer spending. Business investment should also be on fairly solid ground given strong business confidence (Institute for Supply Management indexes all well above the 50% level that signals expansion), lower corporate taxes and reduced regulations. Ongoing trade tensions, protectionist policies and the threat of overtightening by the Fed certainly pose downside risks to growth. On the flip side, if the Democrats and Republicans agree on an infrastructure spending plan (admittedly a very big if), it would provide a small boost to growth.

Somewhat remarkably given the duration of the current recovery (at 114 months, the second-longest in the post-World War II period), the key economic and financial indicators we focus on suggest that the risk of a US recession remains quite low (See our recession dashboard, on pg. 7.) With US inflation currently well-behaved (Figure 7), growth on a slowing trend, and short-term rates closing in on the Fed's estimate of the neutral range (which balances inflation and unemployment), it looks increasingly like the Fed will pause its tightening in 2019 or even end it in the latter part of the year.

7/ Inflation Well-Behaved for Now



As of 11/15/2018.
Source: QMA, Thomson Reuters Datastream.

Europe: So Much Drama

As in the US, growth in the eurozone remains underpinned by consumer spending and should remain that way in the face of low (by European standards) unemployment. Further, the lagged impact of a weak euro in 2018 should boost exports in 2019. However, business confidence remains weak due to global trade tensions, domestic political uncertainties and the European Central Bank's (ECB) imminent ending of quantitative easing (QE).

Overall, European GDP growth in 2019 appears likely to improve over the disappointing levels in 2018, averaging around 2% in Germany and France and a bit higher in Spain (2.5%). But the outlook is much weaker in Italy (0.7%). In fact, growth could grind to a halt as budget tensions with the EU and political uncertainty within the populist coalition government take a toll.[1]

In the UK, Brexit remains a huge uncertainty for the outlook as Prime Minister Theresa May faces strong opposition in Parliament and within her own Conservative Party over a tentative agreement with the EU, and risk is growing that the deal could unravel altogether. UK GDP growth is expected to be around 1.5%, with upside risks in case of a successful deal and downside risks in case of no deal and/or a "hard Brexit."

As for monetary policy, although the ECB has announced that its December 2018 QE asset purchases will be its last, it will continue to provide some stimulus by reinvesting principal payments for the foreseeable future. In addition, it has committed to leaving rates unchanged until at least summer 2019. In the UK, the Bank of England is expected to raise UK interest rates gradually, with one or two hikes in 2019, predicated, of course, on the outcome of Brexit.

Japan: Here Comes the Tax Man

The Japanese economy is likely to have another bumpy ride in 2019. Consumer expenditures, the biggest component of the economy, remain supported by the tight labor market and a shrinking working-age population. But spending is likely to be volatile as consumers up their outlays before the October start of the new consumption tax and reduce them afterwards. While businesses have a strong incentive to boost capital spending due to labor market tightness and longer-term demographic trends, trade tensions and slowing growth in China continue to dampen business confidence and investment.

Meanwhile, inflationary pressures remain muted as firms' cautious pricing behavior and households' resistance to price increases keep expectations low. Inflation is likely to hover around 1% before the consumption tax pushes it higher (which was partly the point). All this has left the Bank of Japan (BOJ) in the most extended holding pattern of all the developed world's central banks. With the tax looming and trade tensions and other related issues still roiling, it now appears the BOJ may wait until after 2020 to even set out its policy normalization process.

Emerging Markets: Relief from 2018's Pressures?

Emerging markets saw tough financial market performance in 2018, with rising trade tensions, Fed rate hikes and dollar strength, high oil prices, and rate hikes by EM central banks. In addition, currency crises in Turkey and Argentina, and fears of contagion hit EM currencies hard, creating a vicious cycle of rising inflation and rates. The good news is that many of these issues have begun to turn around and might even be supportive of growth in 2019.

The sharp fall in oil prices from the highs in mid-2018 are likely to provide relief to the oil-importing economies. With the rising likelihood of a Fed pause in 2019, EM currencies may stabilize and even recover. Lower oil prices and stable currencies should reduce inflation risks and lead central banks to pause their rate hiking. Most importantly, should the US and China hammer out some sort of agreement or at least a détente ahead of the 2020 US presidential campaign season, it would help reduce growth risks across the EM complex. One continuing concern is the record-high level of dollar-denominated external debt and the challenges of servicing it at a time when the Fed is still hiking and trend growth in EM countries is falling.

In general, we expect to see slower growth in EM Asia and Europe offset by a pronounced pickup in Latin America, led by Brazil. In China, we expect to see continued slowing amid ongoing trade tensions, but also further monetary and fiscal stimulus to help cushion the downturn. In India, growth is likely to slow to the 7% range because banks are increasingly saddled with non-performing loans and because the formerly high-flying non-bank financial and housing finance sectors are under stress. However, lower oil prices and election-related spending should boost growth nicely in the first half.

Investment Outlook

We expect to pursue a cautious investment strategy in the early part of the year. But we remain ready to shift toward more aggressive positioning on signs of a bottom or a reacceleration in global growth, a pause in Fed tightening, and more definitive signs that the US dollar has peaked and is headed lower.

Overall, we expect US stocks to deliver low-to-mid single-digit total returns, with price gains tracking our expectation for very modest earnings growth after 2018's gangbuster results. At the same time, we see a non-trivial risk that US earnings fail to grow at all next year (see "The Case for 0% US Earnings Growth," page 8), which could anchor those returns to the low part of that range. EM stocks could be solid outperformers in 2019 given their superior valuation and already significant drawdown. However, we think much of the outperformance could come after the Fed pauses. In fact, we may find a more attractive entry point for EM stocks in the new year.

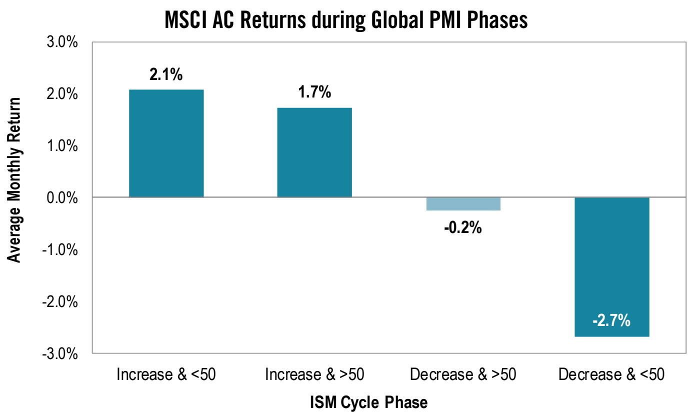
Cross-Asset Positioning: Pulling in Our Horns

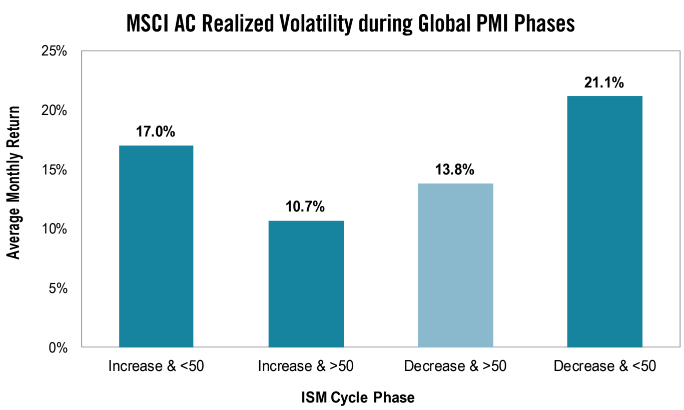
We have become a bit less enthusiastic about risky assets in Q4 as several of our cross-asset indicators are signaling caution, including the flatter yield curve, widening credit spreads and deteriorating sentiment for risky assets. Thus, we have moved from a modest overweight in global equities to a neutral position in

[1] Data cited in this section is from Consensus Economics.

order to better ride out market volatility. We remain overweight cash relative to core bonds and prefer real estate to commodity futures. Figures 8 and 9 show that global equities typically deliver lackluster returns with higher volatility when the Global Purchasing Managers' Index is declining from high levels toward 50%, as we expect in the first half of the year along with the continued slowdown in global GDP.

8&9/ Not a Good Time





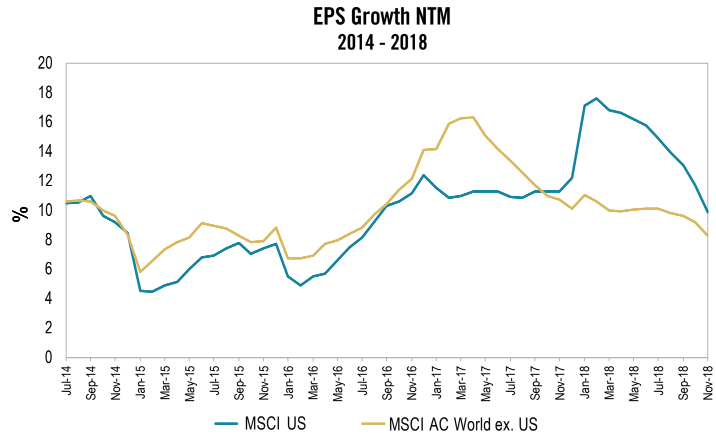
For time period 12/31/1998 through 11/30/2019
Source: QMA, Bloomberg, MSCI.

Past performance is not a guarantee or reliable indicator of future results.

Regional Equity Allocations: Preparing to Retreat in the US and Advance in Emerging Markets

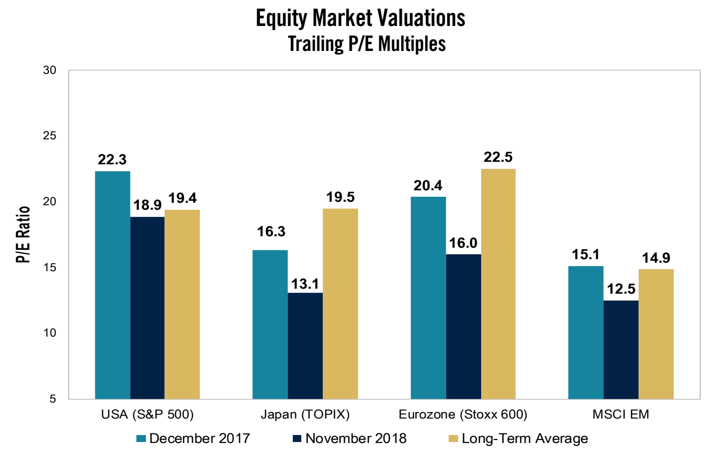
We spent much of 2018 with an overweight to US equities on the view that the tax cuts would turbocharge US earnings growth. They did. Indeed, S&P 500 profits grew by about 24% in 2018, fueling significant US stock market outperformance. The US is likely to become less exceptional in 2019 due to much slower overall earnings growth globally (Figure 10). As a result, we think it may be time to pull some chips off the table here, especially given the big discrepancies that have built up in valuations (Figure 11), and we are now moving toward neutral positioning across the US, developed markets (EAFE) and EM.

10/ American Earnings Exceptionalism Fades



As of 11/30/2018.
Source: FactSet, MSCI.

11/ Even Better Valuations Outside the US

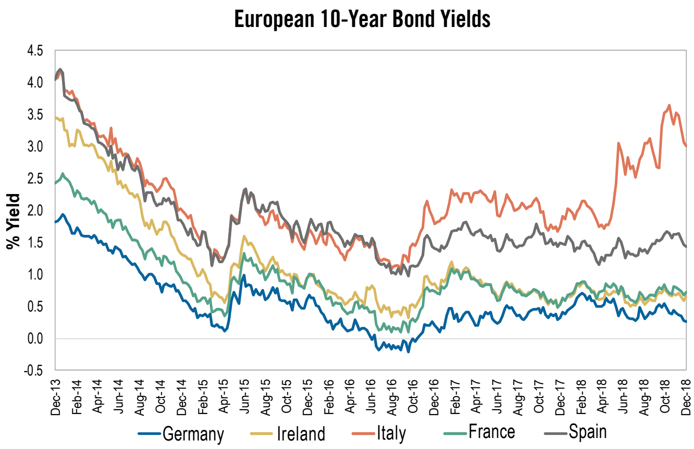


As of 11/30/2018.
Source: QMA, FactSet. Long-Term Average over last 20 years except TOPIX (3/31/2004 to present).

Although we anticipate taking on more aggressive positioning in EM equities, there are a number of catalysts we will be looking for before we do. These include a pause in the rate hiking cycle, a peak in the US dollar and a de-escalation of trade tensions. We expect the pieces to come together sometime in 2019.

We are more ambivalent on non-US developed markets, especially Europe. European markets look cheap, but persistent political uncertainty on the continent is clearly weighing on investor sentiment. European banks, which constitute 13% of the benchmark, are still weak, and will improve only if periphery government yield spreads come down (Figure 12, next page). Moreover, European corporates derive a significant share of their sales (20%) from EM. For better returns to materialize, it is critical for China to recover and for the currencies and economies of other EM markets to stabilize.

12/ Periphery Spreads Still an Issue for European Banks



As of 12/12/2018.
Source: QMA, Thomson Reuters Datastream.

We are somewhat more positive on Japan. After all, it is one of the few remaining developed markets with a still-stimulative central bank and stable politics. Earnings projections for 2019 are modest at 3.3%, but our quantitative work registers a distinct improvement in corporate fundamentals. Japan is also attractively valued at 14 times forward earnings. That said, appreciation of the yen or adverse economic reaction to the consumer tax would be a signal to retreat here.

US Equity Strategy: Favor Large-Caps, Balanced on Style

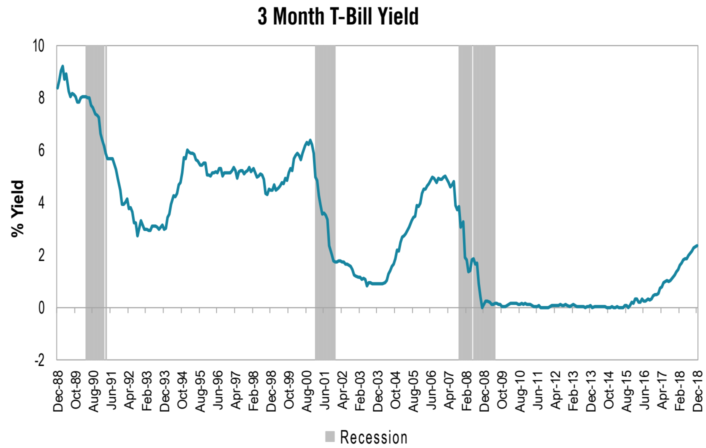
Through much of 2018 we maintained an overweight to small caps as an asset class most geared towards domestic growth. In Q4, we rotated out of small into large for the following reasons: Small caps have thinner margins (4% vs. 11%) and are more sensitive to rising input costs and wages. Small companies also carry more debt and less cash on their balance sheets. As a result, they are much more exposed to rising rates and may find meeting debt obligations more challenging, risking downgrades and even defaults. Another factor stacked against small caps as a group is the high concentration of regional banks (12% of the Russell 2000®).[2] These banks, which do not have trading desks, are less able to benefit from market volatility, but they still face pressure on net interest margins from the flattening yield curve.

We currently favor an equal allocation to growth and value stocks. In principle, a slowdown in growth and a flatter yield curve tend to favor companies that can deliver stable growth. But this time may actually be different; after a prolonged run that resulted in a valuation premium of nearly 50% over value stocks, growth stocks are hardly a safe haven. One of the drivers of the fall correction was the froth coming off a hot technology space. Market sentiment towards growth stocks has deteriorated, and earnings projections have been cut. Value stocks are attractively priced, but as a group they face their own challenges, such as a high concentration of banks and energy companies, and large levels of debt. We will eventually enter a long and powerful value phase, but it may have to wait for an upturn in global growth prospects.

Fixed Income: The Re-Crowning of Cash

Because of US quantitative tightening, burgeoning US budget deficits and a preference for stocks, we have carried a pronounced underweight in bonds throughout the year. Over the past few weeks, however, we tempered that underweight due to risk-off sentiment, a reduction in expected Fed hikes, and a more skeptical near-term view on equities. We are also in less of a hurry to reduce our overweight to cash relative to longer duration bonds now that T-bills are yielding close to 2.5% (Figure 13).

13/ Cashing In



As of 12/12/2018.
Source: QMA. Thomson Reuters Datastream.

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We spent much of the year cutting back on our exposure to US high yield bonds. Yes, at 7.5%, yield is good, but option-adjusted spreads are still low relative to history, at 418 basis points (bps) as of November 30, and have been rising. So, with the increasing interest rate burden on indebted companies, there is a good chance they will continue to widen further. Spreads had widened to over 700 bps as recently as early 2016. EM debt, which is a solid alternative to high yield, also offers an appealing yield, and after being battered in 2018 it offers a more attractive relative valuation. Indeed, we recently added to EM debt from US high yield for just these reasons. But this was from a significant underweight position in EM debt, and we still maintain the underweight. We would not move to an overweight position here unless there is strong evidence of a pause in US rate increases and a stabilization of EM currencies. EM debt may be another great mid-2019 opportunity, but until then we need to be patient. Are we there yet?

[2] The Russell 2000® Value Index is a trademark/service mark of the Frank Russell Company. Russell® is a trademark of the Frank Russell Company.

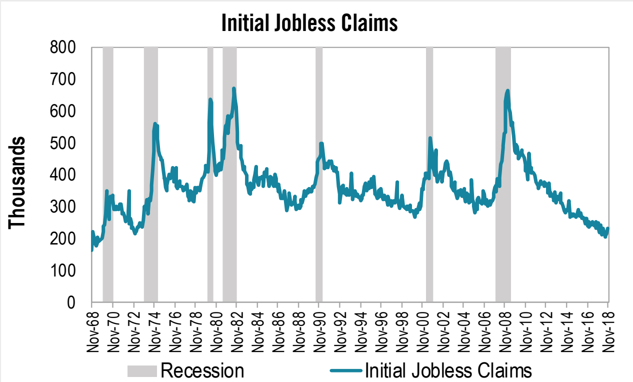
QMA Recession Dashboard

While it's clear that the US is in late cycle, none of the high-frequency indicators QMA monitors closely to gauge the risk of recession could really be said to be "flashing red."

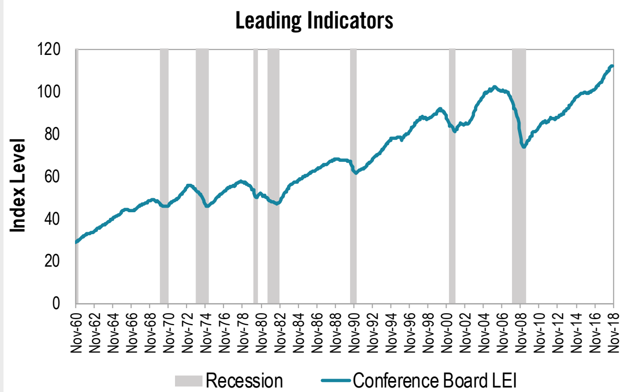
Initial jobless claims are still near historic lows despite a recent uptick, and the **Conference Board of Leading Indicators Index** (composite of hourly earnings, manufacturers' shipments, etc.) is at historic highs and moving with an upward momentum. In neither case do these indicators suggest that a turn in the US economy is imminent.

High yield spreads have certainly widened in recent months, signalling a repricing of corporate risk. But current levels are still near this cycle's lows and well below the level seen in 2016, which was followed by a slowdown but not a recession.

The **yield curve** has drawn a lot of attention in recent weeks. Historically, the yield curve signalled that a recession is ahead when it "inverts" — that is, when the yields of longer-dated Treasuries become lower than those shorter-dated, an indication investors think monetary policy is too tight and future growth will deteriorate. As the chart below shows, the curve has clearly been flattening for years. Indeed, in November 2018, it flattened to the point that 10-year Treasuries were yielding just 21 bps more than two-year notes. But it has yet to invert. Based on history, even if the curve inverts, we would likely have at least a year before the next recession starts.



As of 11/18/2018.
Source: QMA, FactSet, Thomson Reuters Datastream.



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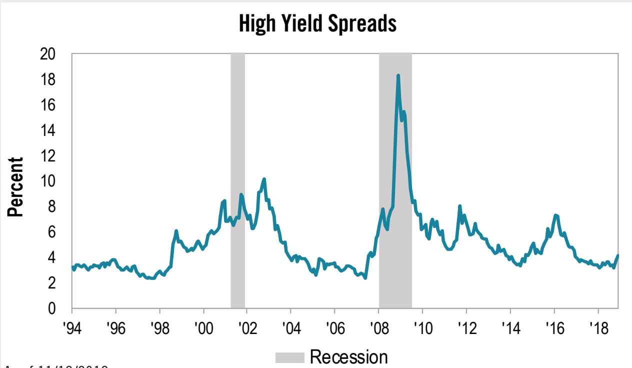

As of 11/18/2018.
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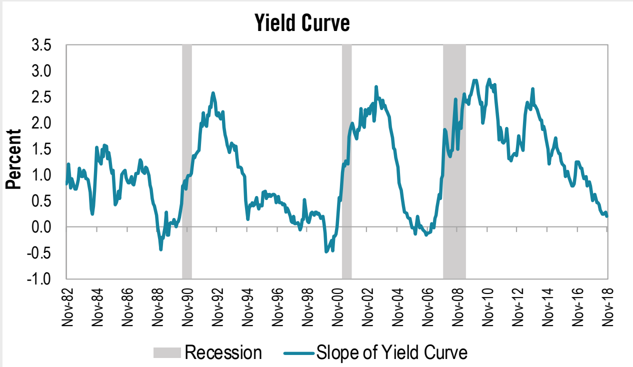

As of 11/18/2018.
Source: QMA, FactSet, Thomson Reuters Datastream.

The Case for 0% US Earnings Growth

Our outlook for an extremely bumpy, but ultimately positive, road for US equities in 2019 is predicated in large part on our modest expectations for US corporate earnings growth, especially compared to the past two years.

But what if S&P 500 earnings don't grow at all in 2019?

We think there is a non-trivial risk of this happening, based on three factors: the historical relationship between analysts' forecasts and actual earnings, the potential for tighter profit margins due to higher wages and a stronger dollar, and the impact of slowing global GDP growth on sales.

As of early December 2018, the bottom-up forecast for earnings growth was about 8%, not bad after a nearly 25% growth rate in 2018. But over the past 37 years, annual earnings forecasts have declined by an average of 57 basis points per month over the course of each earnings cycle as reality cuts forecasts down to size. If 2019 is an average year, in the 15 months or so from now, when we know what 2019 earnings were, the results will be .57 x 15 below what they are now, which gets us to … just about zero.

In addition, there are plausible systemic factors that might drive the number lower. Wages are now growing meaningfully faster than prices (3.1% vs. 2.2%), and productivity growth, though perking up of late, has been anemic for several years, with the latest reading at 1.3%. Average profit margins (11%) are at historic highs, so companies have some room to absorb higher wages. But with unemployment at 3.7% (about 2% for college grads), wage pressure is unlikely to ease any time soon. High wages will be needed to retain talent, and even higher wages to coax new talent through the door.

A stronger dollar could also present a challenge, potentially hurting earnings in a couple of ways. S&P 500 companies get some 37% of their sales from outside the US. When the dollar appreciates, US-made products have a price disadvantage, which can hinder sales. In addition, even if sales don't decline, they will be worth less in dollars once translated from euros, yen and pesos. So far in 2018, the dollar has strengthened by close to 5%, implying that earnings will be under pressure. On the other side of the P&L statement, with global GDP slowing, US corporations will struggle to match 2018's 7% sales growth. Knock that down, say, in half, and compress margins by another 3-4% ... and it's another way of getting to zero.

Of course, aggressive stock buybacks could push earnings per share into positive territory by reducing net shares outstanding even if overall earnings are flat. Productivity growth could surge (we hope it will). It seems likely to us that US and global economic growth will be modestly slower in 2019 than it was in 2018, but a rebound due to aggressive stimulus in China or the US could keep growth more robust. So positive earnings in 2019 are *possible*.

But we wouldn't bet the farm on it, and we aren't—hence our current neutral weighting to US equities. Earnings forecasts have fallen by about 2% in the past two months. An aggregate reading of a new QMA quant equity signal that measures the tone of corporate conference calls suggests the enthusiasm level inside C-suites has dropped appreciably. And some big, bell-weather companies have acknowledged slowing sales. All more reasons to play it conservative, at least for now.

QMA's Asset Class Views

Asset Class	–		Neutral		+
Stocks			■		
Fixed Income		■			
Real Estate		■			
Commodities		■			
Cash					■
Stocks[3]					
US			■		
EAFE			■		
Emerging Markets			■		
Fixed Income[3]					
US Core			■		
TIPS				■	
High Yield				■	
Non-US Dev. Sov. Bonds		■			
EMD		■			

■ January 2019

As of 12/18/2018.
Source: QMA. There is no guarantee this will be achieved. For illustrative purposes only.
Positioning subject to change.

[3] Renormalized to Equity only and Fixed Income only exposures.

QMA a PGIM company

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ABOUT QMA

Serving investors since 1975, QMA targets superior risk-adjusted returns by combining research-driven quantitative investment processes built on economic and behavioral foundations with judgment from experienced market practitioners. Ultimately, each portfolio is constructed to meet the individual financial needs of the client. An independent boutique backed by the capabilities of one of the world's largest asset managers, QMA is the quantitative equity and global multi-asset solutions business of PGIM, the global investment management businesses of Prudential Financial, Inc. Today, we manage approximately $128 billion* in assets for a wide range of global clients.

*As of 9/30/2018.

NOTES TO DISCLOSURE

Sources: QMA, MSCI, FactSet, Bloomberg, OECD, Thomson Reuters Datastream, Federal Reserve Bank of Atlanta, Federal Reserve Bank of New York.

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