Economic & Capital Markets Outlook

BNY INVESTMENT STRATEGY
& SOLUTIONS GROUP

FIRST QUARTER 2017

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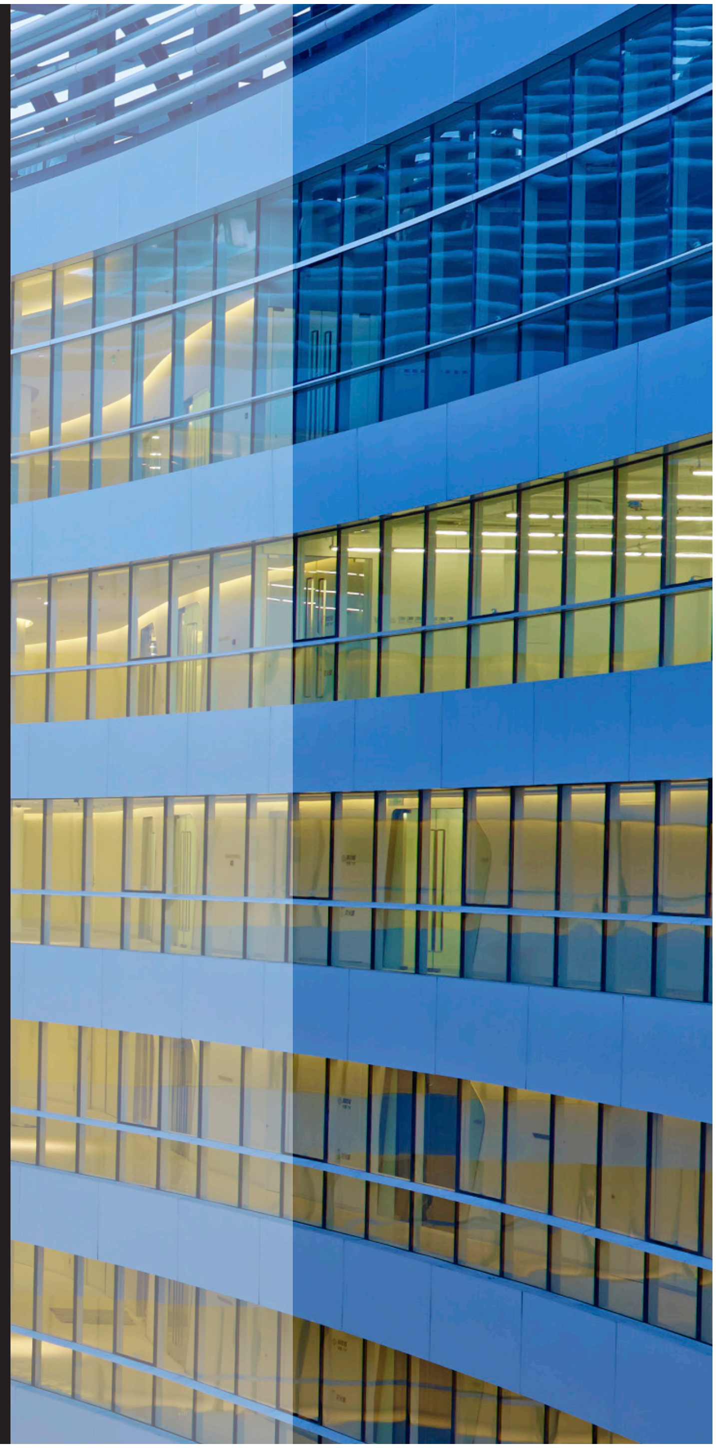


BNY MELLON

Executive Summary

ISSG CMC SUMMARY ASSET ALLOCATION

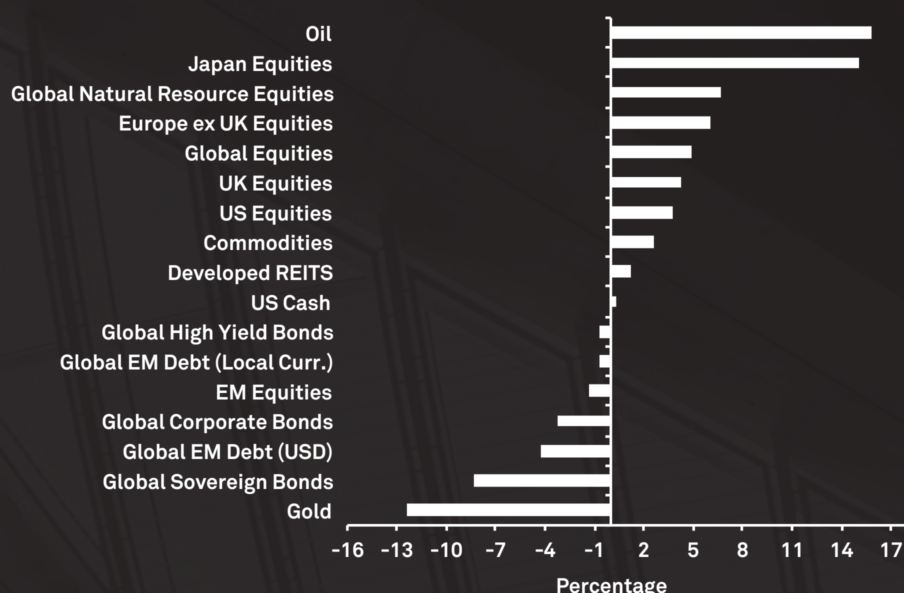
	Current	Benchmark
Global Equities	50.50%	50%
Global Bonds	47.08%	50%
Cash	2.42%	0%

- Stable quarter-on-quarter outlook has equities on hold near benchmark.
- Marginal increase to fixed income for downside protection as global risks persist.

FIVE THINGS TO WATCH IN Q1 2017

1) Expectations of the Fed's rate hike path and its effects on risk assets and global carry trades.
2) Durability of the reflation rally beyond February and the year-on-year low base effects.
3) Policy actions in US (taxes, trade, healthcare, and infrastructure) under Trump's "first 100 days".
4) European political situation, including: nationalism, elections, and ongoing "Brexit" negotiations.
5) Bond vs. equity market correlation reducing diversification benefits.

FIG. 1: GLOBAL ASSET PERFORMANCE
% change over 3 months to 30 DEC 16

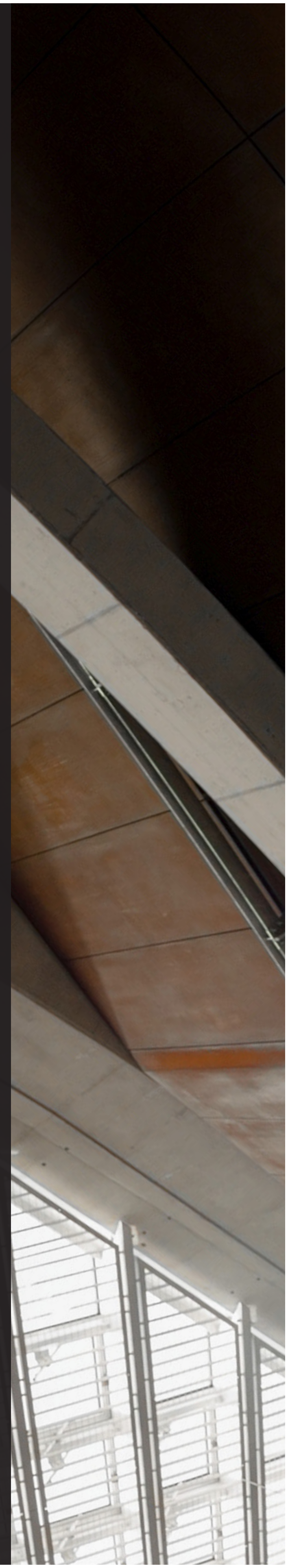


Source: Thomson Reuters Datastream & ISSG. Please see pages 12 and 13 for a description and definition of the index representing each asset class listed above. Past performance is not indicative of future results.

ABOUT THE INVESTMENT STRATEGY & SOLUTIONS GROUP

BNY Investment Strategy & Solutions Group (ISSG) designs, develops and manages asset allocation strategies to help clients achieve their specific investment objectives. We combine a multi-faceted approach to risk with a forward-looking, long term perspective on economic and markets to identify opportunities while harnessing the broad and deep expertise of a global network of specialized investment affiliates to deliver sophisticated investment solutions.

The ISSG Capital Markets Committee (CMC) provides baseline, global asset allocation policy and assesses the market outlook for the global multi-asset strategies and solutions managed by ISSG.



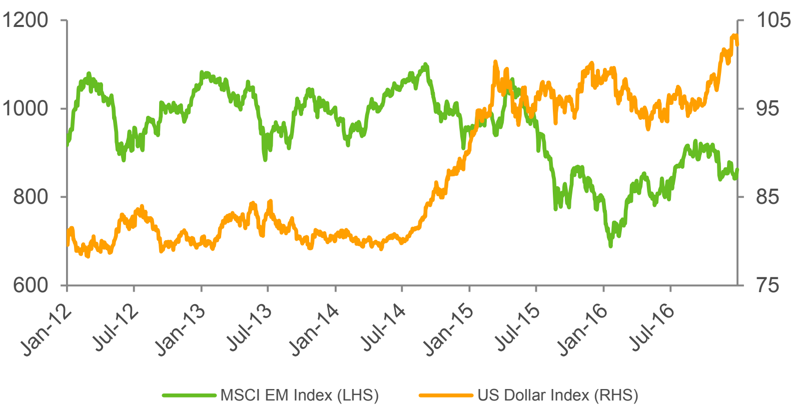
What we are watching

Theme	ISSG View	Asset Class Impact	Risks to View	Recent Considerations For ISSG View
Global Growth	DM growth prospects marginally improved for 2017 as potential for material policy adjustments may underpin a further uptick in economic activity levels, despite the productivity, political and geopolitical uncertainties overshadowing corporate sector spending plans. EM growth prospects will face more sustained headwinds in 2017 as DM and domestic policy changes offset some of the benefits expected from an improved commodity complex outlook.	DM assets are better placed for some moderate upside in H1 2017 as policy changes may provide further support for valuation levels. However, earnings will likely remain challenged in the absence of broader, more sustained top line growth. Markets sensitivity to economic and political news flow should remain elevated, with changes to policy direction and mix playing a larger role in growth and asset class performance in H1 2017.	US policy expectations saw a material shift in Q4 2016, with a significant re-pricing across markets, but with proposed policies comes significant risks in the event that they fall short of expectations (e.g. tax reform, repatriation) or indeed exceed them (e.g. review of existing trade treaties such as NAFTA or imposition of punitive tariffs). Beginning of the UK departure from the EU and key elections in Europe just some of the other upcoming events to monitor in 2017.	Accommodative policy should remain in place across much of the major DM economies in 2017 as focus remains on downside risks, but watching inflation expectations more closely as data driven monetary policy could see further adjustments in H1 2017. Strong USD and US consumer sentiment bode well for consumer spending, but we continue to look for an uptick in corporate sector capital spending in 2017.
Global Inflation	With US inflation continuing to tick up and the prospects of a material fiscal stimulus package materialising in H1 2017, inflation expectations could see a further shift up, providing further ammunition to policy hawks. Inflation expectations in other DM markets also more constructive into 2017.	Growing signs of inflation will continue to be felt most acutely in fixed income assets, which have already seen a substantial rise in yields during Q4 2016. Less likely to upset prospects for equities in the absence of further changes to monetary policy expectations. EM inflationary pressures should remain manageable for most major economies in H1 2017.	Developments in currency wars unleash further disinflationary pressures. On the other side of same coin, a shift in US criteria for recognition of "currency manipulators" followed by the imposition of trade tariffs could see a step change in US and affected countries' inflation expectations.	USD strength has seen Chinese CNY devaluation gather pace in Q4 2016, increasing pressure on capital outflows and the USD/CNY exchange rate. This may further increase focus on the commitment to the current FX policy regime and raise expectations of a possible major devaluation, further fuelling capital outflows, and ultimately result in more aggressive capital control measures.
Monetary Policy	Following Europe's move to a variable open-ended QE program in Q4 2016, US policy remains centre stage as a prospect of a significant fiscal spending plan against a backdrop of growing inflationary pressures has policy makers in a holding pattern ahead of the adoption of a potential shift to a more hawkish stance. Japan to continue yield targeting monetary policy in 2017.	Carry trades and yield pickup plays will remain under review in H1 2017 as yield differentials continue to widen following the US election and policy action in other major DMs. EM policy makers face rising external financing costs and may have to raise rates in order to defend their currencies, as seen in some instances during Q4 2016.	Risks of "taper tantrum" for DM ex-US shifted into H2 2017. US Fed policy error risks elevated in 2017 as policymakers seek a balance between running the economy hot vs overheating, as inflation forecasting faces a less certain fiscal policy backdrop. Central banks' ammunition to stave off further downturns limited given falling efficacy of QE policies.	DM ex-US questions around the ongoing form of monetary policy support and how this may ultimately be scaled back without upsetting growth will continue to form the basis of policy discussions into 2017. EM policy makers likely to face less supportive capital flow trends in 2017 as markets move to re-price risk as DM yields rise.
Fiscal Policy	US fiscal policy expectations shifted following the election results as markets began to factor in a combination of tax and regulatory incentives as well as additional government spending programs. These will still be subject to scrutiny and approval in 2017. DM budget deficits and growing concerns about elevated debt/GDP levels will rise in prominence during 2017 as debt servicing costs rise along with yields.	Continued progress in DM fiscal policy responses should provide much needed support to top line growth and risk assets generally, though deteriorating fiscal positions could add further pressures to bond and FX markets, raising risks of rating downgrades. EM space for fiscal stimulus may be more challenged in H1 2017 as USD strength weighs on government finances.	A more hawkish US stance on international trade and the possibility that existing trade agreements are revisited could result in material shifts in fiscal policies across affected countries in 2017 and beyond. Upside risks to growth if corporate sector see policy changes seen as catalyst to step up investment plans, but this may be offset in part by the changing international trade landscape.	With Europe, UK and Japan all pursuing QE programs, space for further fiscal stimulus will be balanced against affordability. Japan 0% yield targeting for 10Y bonds providing unlimited borrowing opportunity for government at "no cost", an interesting development to monitor in 2017, alongside the size of central bank balance sheets, which continue to grow in several major DMs.
Emerging Markets	EM fundamentals face growing headwinds in 2017 in the form of rising external financing costs as well as the potential for less favourable trade access to DMs and sharp changes in capital flows. Stability in China remains key for 2017 and policy developments in light of a changing US administration will be crucial to sustain stability and growth trajectory.	EM assets continue to be attractive vs DM on a relative valuation basis, but against a backdrop of rising risks. Bargain hunting, if pursued, should be in conjunction with a more selective approach in order to avoid any surprises in 2017, with particular attention required for countries with greater external vulnerabilities.	EM FX will likely remain particularly prone to the risk-off trade and an important consideration for the ongoing yield pickup trade. Risks of EM shift to more populist macro policies as a fallout of changes to international trade landscape. Watching for impact of developments in US and European policies in 2017.	Rising geopolitical and protectionist headwinds could see a rapid deterioration in sentiment towards EM, with political stresses and poor policy choices possible catalysts. Counter cyclical central bank policy to stabilise currencies in more vulnerable countries could also prompt shifts towards more populist policies, and ultimately weigh on global demand.
"Tail Risk Monitor"	The onset of a new US Executive and its policy initiatives, "Brexit" Article 50 exercise (Q1 2017) and a number of key European elections provides a backdrop in which populist and protectionist forces could gather further momentum, with risks to both planned and existing global and regional trade relationships. Sharp Fed shift to more hawkish stance following fiscal policy announcements.	Political crisis in Europe could see return of financial stresses and rising bond yields, damaging corporate sector confidence and weighing on sentiment more broadly, which would see spill over into global DM and EM markets. A sharp move in Fed expectations would hit bond markets globally, whilst the stronger USD would weigh on FX markets, with EM likely to see a material acceleration in capital outflows.	Whilst most market participants are focused on downside risks, there is also a "right tail" risk in as much as positive US policy surprises and absence of political events sees riskier assets outperform against a backdrop of improving economic fundamentals and sentiment. Watching US tax and regulatory reforms in particular for a possible step change in corporate earnings expectations.	US tax and regulatory reforms will take time to complete and benefits may not be seen in the economy until H2 2017 or even 2018. Continue to monitor rising global debt in 2017 with further fiscal programs planned and "FX wars" still playing out, expect to see credit ratings under greater scrutiny, in both government and corporate sectors.

Key Charts: Economics and Markets

Emerging market equities have often exhibited an inverse relationship to the US Dollar, and we see this pattern continuing. The strengthening USD that has resulted from the Fed's initiation of rate normalization has exported inflation and refinancing pressure to EM economies. After an impressive rally in early 2016 that many saw as a potential breakout, EM stocks have resumed their downward path in view of weak fundamental challenges (which now include US trade policy uncertainties).

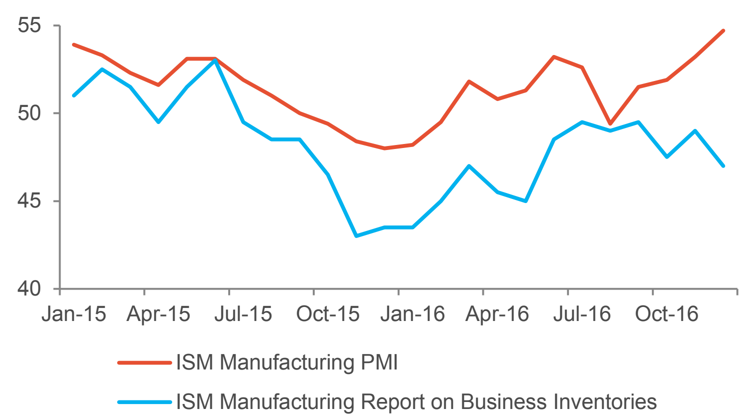
Fig. 2: Emerging Markets performance still closely linked to the USD



Source: Bloomberg
January 2012 – December 2016

Many headline PMI surveys around the world have been moving in positive directions. Looking under the hood at the sub-components in the US in particular, we're seeing a positive divergence between manufacturing activity and inventory build. What this means is that companies are producing for sale rather than producing to restock inventories – or seeing inventory build-up as sales falter. This paints a positive picture for growth sustainability given a tight labor market and a strong consumer.

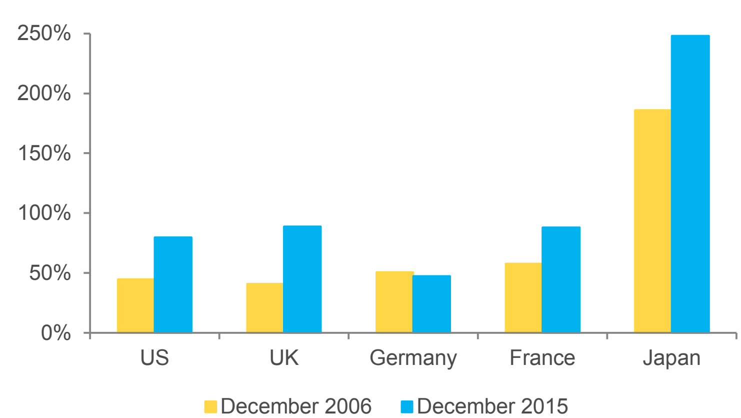
Fig. 3: US Business inventories are falling as PMI is rising



Source: Bloomberg
January 2015 – December 2016

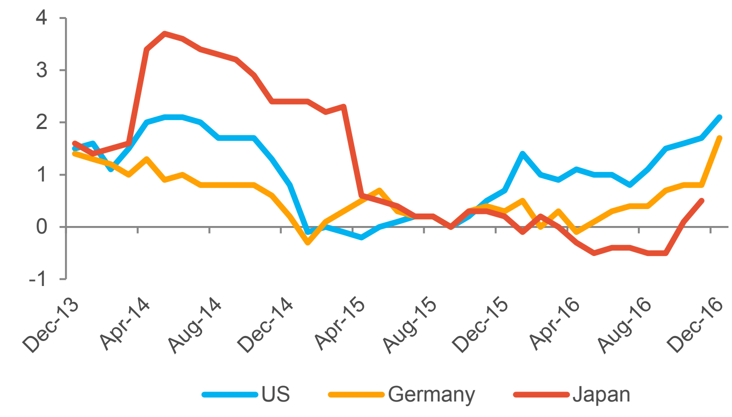
The austerity debates of only a few years ago may see a return to the political stage, as long-term macro indicators of indebtedness have been on the rise. This bolsters the argument for budget hawks at a time when popular calls for fiscal stimulus are finally gaining traction. The only country (out of five) where the situation has improved is in Germany, which saw a modest but meaningful reduction in its indebtedness. The UK experience has been particularly negative, as indebtedness approximately doubled over the past ten years.

Fig. 4: Debt-to-GDP ratios on the rise around the world



Source: Bloomberg
December 2006 – December 2015

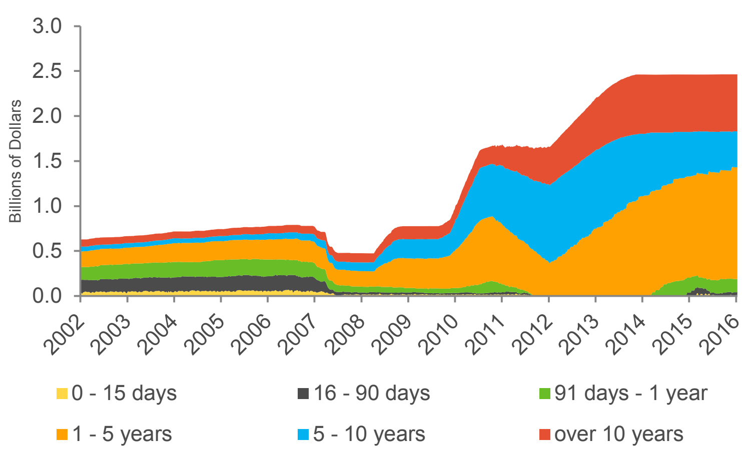
Fig. 5: Inflation is a global story



Source: Bloomberg
December 2013 – December 2016,
Japan: December 2013 – November 2016

The strengthening inflation prints that have been building for some time in the US – and in EMs via currency weakness – are now spreading broadly into DM markets where price growth had been otherwise anemic. Q1 should reveal if reflation can be sustained with durable earnings growth and fiscal policy recovery, or if the prospect of inflation is just an illusory effect of a low year-on-year base.

Fig. 6: Fed balance sheet composition shifts towards shorter maturities



Source: Federal Reserve Bank of St. Louis
December 2002-December 2016

While overall size of the Fed's balance sheet has stabilized post-tapering, the composition is shifting to shorter duration holdings. This is an obvious natural function of maturation. However as more and more debt ages into near-term tranches, expect to see greater focus and scrutiny on the reinvestment of the retired proceeds, and implications for the yield curve, sovereign & corporate borrowing, and consumer mortgage markets. If the Fed reinvests at short maturities, it will help keep a lid on yields and the upward rate pressure that new borrowing and fiscal spending might exert.

Fig. 7: Geopolitical Calendar

2017 Political Events	
Jan 20	US Presidential Inauguration
Mar 15	Dutch general election
Mar 31	UK to trigger Article 50 starting Brexit process
Apr 23 / May 7	French presidential election
May 25	OPEC meeting in Austria
May 26 - 27	G7 Summit in Italy
Aug 27 - Oct 22	German federal election
Nov 6 - 17	UN Climate Conference

Source: Governmental Press Releases

While the US election dominated 2016's Q4, the year ahead turns the political spotlight back on Europe, where a number of elections, summits, and referendums are slated – most notably the French presidential election. Nationalist and populist sentiment has been on the rise, and the movements have numerous opportunities to play out in the increasingly fragile European Union. The design of the future relationship for the UK and the mainland could conceivably spark new internal debates among members as to the benefits of unification and the asymmetries presented by a more "tailored" relationship.

Economic Outlook

The old saw that "markets hate uncertainty" was turned on its head, when markets rallied on the Trump victory, surprising in that Trump himself seems to present a number of uncertainties to the market. Inflation expectations, which had been modestly on the rise, broke clearly to the upside as investors contemplated the effects of energy recovery, tight labor markets, and a shift to increased fiscal spending. The new case for broader growth is beginning to show itself in GDP forecasts as well as forecast revisions (Fig 8.).

In the US, the ingredients are in place for a meaningful bout of inflation, which will keep policy bias on the hawkish side: tight labor market, strong consumer, tax reform and infrastructure expectations. We're now seeing confirming evidence that the reflation theme is going global (Fig 9.), with stronger inflation numbers out of Japan and the EU, and currency weakness impacting imported goods in many emerging markets. Globally, 12m forward inflation expectations have been on the march for almost two quarters, and revisions, while still negative, are ticking up. Still, the inflation theme is fragile. Indeed, some of the same forces that spurred the market rally could be inflation's own undoing: de-regulation in the energy & materials sectors could create a supply glut as new fields and old extraction practices come back on line.

As we enter 2017, equity markets have priced in much of the next chapter of growth and reflation. The first three months of 2017 – roughly overlapping with President Trump's "first 100 days" – will provide ample opportunity to gauge if the initial post-election exuberance has legs to advance further. US earnings have improved, but consumer health, geopolitics, and trade all present risks.

As we look regionally (Fig. 10), GDP revisions are now in positive territory for all global regions. This reverses last quarter's weakness projected for the US, as analysts were encouraged by the earnings and (potential) fiscal picture. Revisions are highest in Japan, followed by EM BRIC markets, which have all been struggling with low growth for the past several years. Similarly, inflation revisions are also now positive across all regions. Commodity price reflation and hopes for a resurgence in infrastructure spending have been two key drivers. It remains to be seen if energy prices will advance beyond the February year-on-year base effects or if political will exists to spark new fiscal stimulus. Nowhere is inflation more pronounced than in the US, where a tight labor market is pushing up wages and consumers remain strong. Robust inflation prints in the face of a strong dollar underscore the durability of the inflation story. Elsewhere, weak currencies in the face of a stronger dollar are providing another mechanism to import inflation to a broad range of global economies.

Fig. 8: Expected Global Growth and Growth Revisions

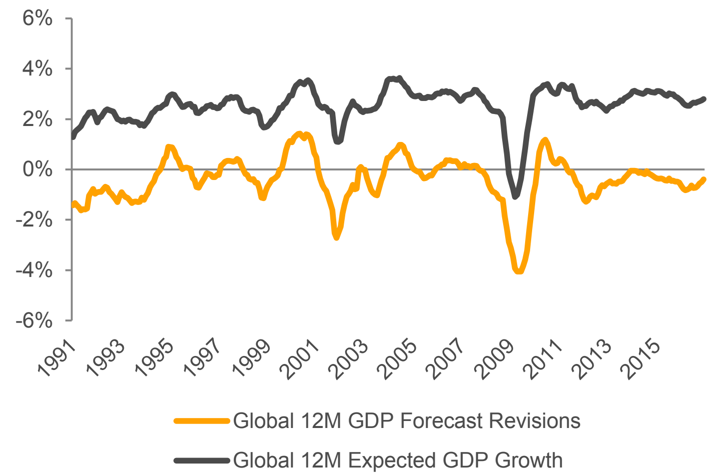


Fig. 9: Expected Global Inflation and Inflation Revisions

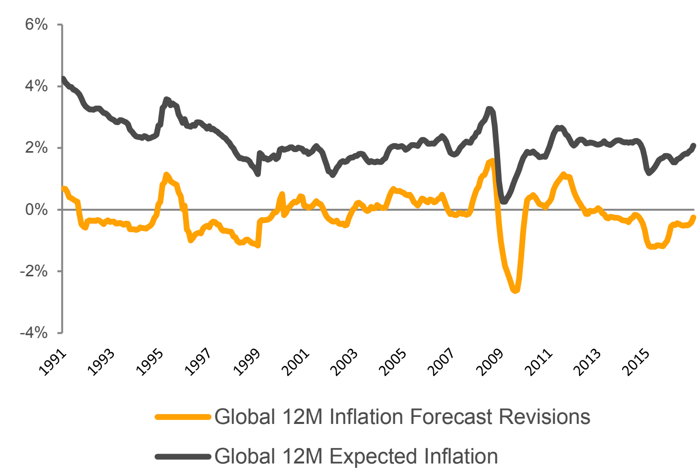
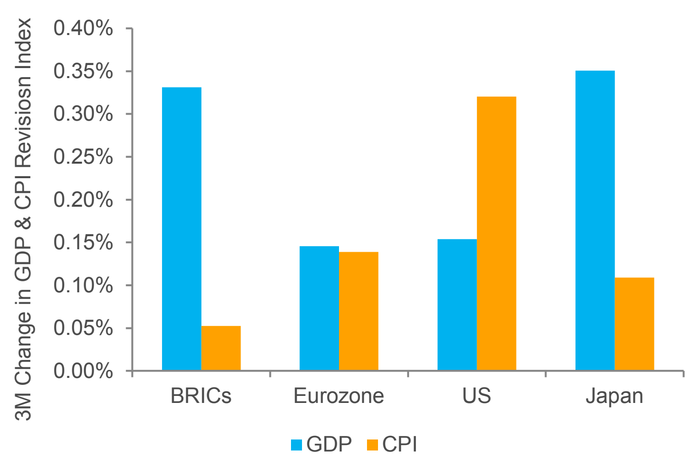
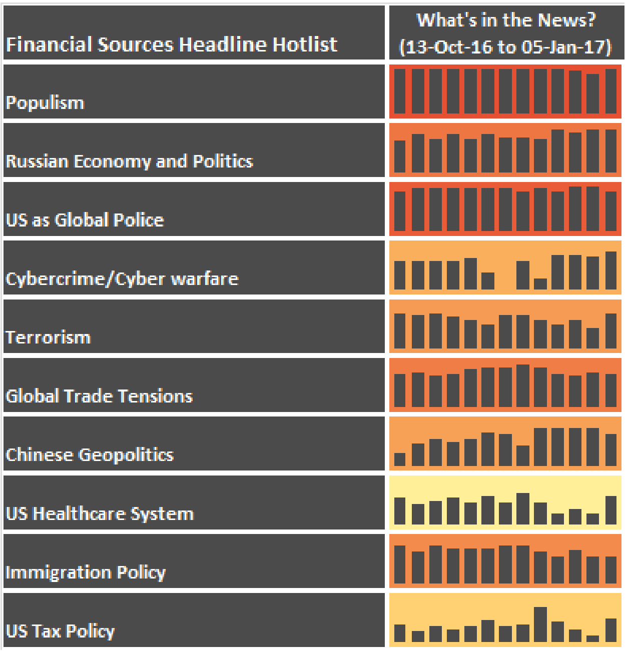


Fig. 10: Quarterly Regional Revisions For Growth and Inflation Forecasts



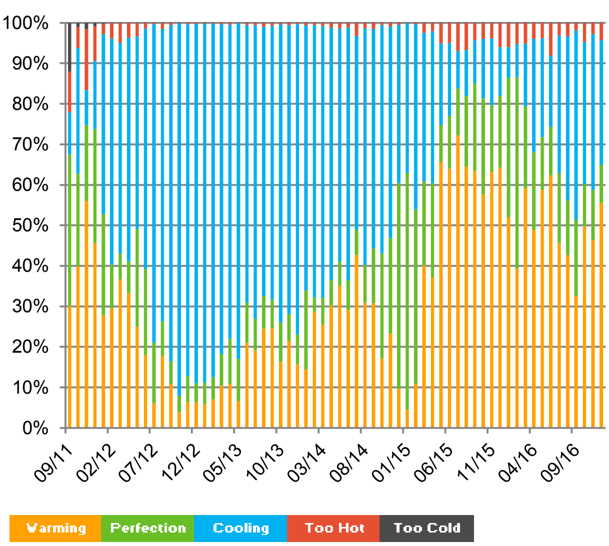
Source for Fig. 8,9,10: Consensus Economics, ISSG. Information as of 31/12/16.

Fig. 11: Global Headline Hotlist



The above graphic shows the top ten most mentioned themes that are relevant to financial markets in order of their ranking on January 5, 2017. The bar height shows the frequency of the coverage of each theme in the news for each of the last 13 weeks, with the furthest right bar representing the most recent ranking. The color of the background denotes the average intensity over the past quarter. Using financial media and influential blogs identified by multiple teams at BNY Mellon, those stories are used to highlight the hottest topics each week across over 3,000-6,000 news items. Story summaries are classified using a Bayesian classifier which is trained on stories from the last six months. Training stories are manually tagged and classified by a senior strategist.

Fig. 12: RBAA* Regime Probabilities



Source ISSG as of 31 December 2016

*Regime Based Asset Allocation (RBAA) is a proprietary asset allocation model created by the ISSG which considers asset returns in the context of regimes created by underlying changes in growth and inflation expectations. Contact the ISSG for detailed information on this research. Please see appendix for information regarding regime categories.

In our proprietary analysis of news flow – the ISSG Global Headline Hotlist (Fig. 11) – the onslaught of news stories about populist political movements continues unabated. For the most part, this sentiment is a US / UK / European story, but we continue to monitor the phenomenon globally, as this could signal a significant tipping point. Terrorism, trade, and US foreign involvement continue to remain ongoing top categories – with trade becoming ever more prescient given recent US-China rhetoric. Russian economic and political news, which had jumped from low levels last quarter, continues to dominate and comingle with stories of cybercrime & cyber warfare. Chinese geopolitics has become more consistently featured over the quarter, with trade and FX reserves being key themes. US tax policy and healthcare made the top ten at a low ebb, but expect to see more activity here as policy speculation gains the potential to become reality.

Finally, our Regime Probability Outlook (Fig. 12) indicates "Warming" has overtaken "Cooling" as the most likely regime in our model. The warming regime is typically associated with rising inflation, modest growth, and a subdued volatility environment. Until this point, actual inflation and growth expectations had been lagging, which countered the numerous other factors in favor of warming. Now, however, we observe broad consistency across the individual regime signals we monitor, including: improved earnings revisions, a steepening yield curve, stable corporate spreads with an upward drift, and a below-average reading on the VIX. Under these more inflationary price conditions, inflation-sensitive and some risky assets can perform well, however, caution around inflation sustainability is prudent and our positioning reflects that.

Asset Class Outlook

Global Equity Markets:

	ISSG CMC View	Valuation Model	Momentum Model	RBAA Model
US Equity	Overweight	Favorable	Favorable	Favorable
	The active overweight in US equity remains as the region continues to be a relative bright spot. While continued strength in employment should support consumer activity, global growth concerns and the headwind of a stronger dollar on fears of stronger Fed tightening continue to temper optimism. The elation over expectations of tax reform and fiscal stimulus may continue, but we must remain only cautiously optimistic about their fruition.			
Europe ex-UK Equity	U/W	Favorable	Unfavorable	Favorable
	While tapering of QE has been pushed off, recent rises in inflation are worrisome. Several issues have been kicked down the line, increasing concerns over the banking sector and uncertainty regarding election outcomes continues to make policy unclear.			
Pacific ex-Japan Equity	Neutral	Favorable	Favorable	Favorable
	The overarching theme in the region continues to be the state of Chinese economic growth and resulting currency impacts from policy actions by regional central banks or expectations thereof. Chinese defense of the Yuan via capital controls and the selling of foreign reserve is rampant and shifts in trade policy and rates could make their defense untenable especially as they balance between maintaining growth and making the yuan a reserve currency.			
Japan Equity	Neutral	Favorable	Unfavorable	Unfavorable
	Japan's devaluation of the yen moving with their expanded defense of the zero rate peg. Inflation seems to be ticking up, which begs the question of whether they will begin tapering their QE program soon.			
UK Equity	Neutral	Favorable	Unfavorable	Favorable
	Hard Brexit seems unlikely and policy is fairly accommodative, but the true outcome of Article 50 is uncertain at this stage. Inflation continues to strengthen and consumer credit expansion seems healthy, but growth is slouching prior to the actual event, which is not encouraging.			
EM Equity	Neutral	Favorable	Neutral	Favorable
	EM fundamentals face growing headwinds in 2017 in the form of rising external financing costs as well as the potential for less favourable trade access to DMs and sharp changes in capital flows. Stability in China remains key for 2017 and policy developments in light of a changing US administration will be crucial to sustain stability and growth trajectory.			
REIT Equity	Neutral	Favorable	Unfavorable	Favorable
	We remain neutral to REITs as the yield spread differential with Treasuries remains at more normalized levels. Rising inflation and wage growth particularly should help drive real estate markets but conversely rising interest rates will hurt financing costs. If the rate cycle is managed well, then REITs will fare decently.			
Global Natural Resource Equity	Neutral	Favorable	Unfavorable	Neutral
	While recovering energy prices have helped buoy the sector, the supply / demand dynamics going forward keep us at neutral as energy is somewhat range bound by the onset of shale production at profitable levels, thus keeping supply from being overly constrained. Global demand does not seem to be growing as IMF forecasts are revised downwards. Capacity across the entire commodity complex has been rationalized given agreement between OPEC members and capacity coming off line or not being renewed. A strengthening dollar from a hawkish fed combined with global growth that may be slowing is not a recipe for strong commodity prices needed to support this sector.			

Fig. 13: ISSG CMC Global Asset Class Views

ASSET CLASS	ISSG VIEW
Global Equities	**+0.5%**
U.S.	O/W
Europe Ex U.K.	U/W
Pacific Ex-Japan	Neutral
Japan	Neutral
U.K.	Neutral
EM	Neutral
REITS	Neutral
Global Natural Res.	Neutral
Global Bonds	**-3%**
U.S. Sovereign Debt	Neutral
U.K. Sovereign Debt	U/W
Japanese Sovereign Debt	U/W
German Sovereign Debt	U/W
Inflation Linked Bonds	Neutral
High Yield	Neutral
U.S. IG Corp. Bonds	Neutral
EM Local Cur. Debt	Neutral
EM USD Sovereign Debt	Neutral
Cash	**+2.5%**

Fig. 14: Global Equity Index Performance % change vs MSCI AC World Index over 3 months to 30 Dec 16

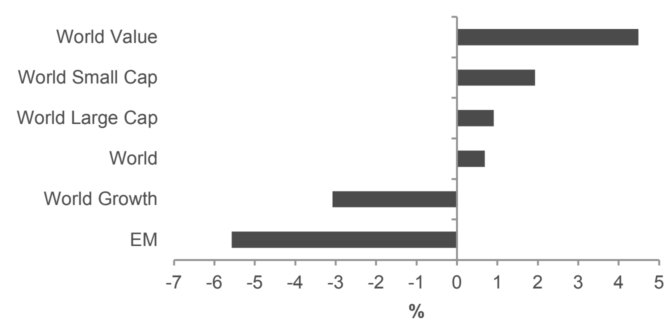


Fig. 15: Country Index Performance % change over 3 month to 30 Dec 16

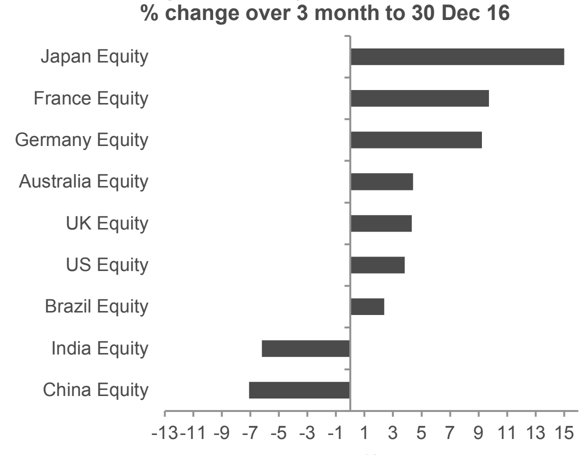


Fig 14, 15 Source: Thomson Reuters Datastream & ISSG
Past performance is not indicative of future results.
See appendix for index definitions

Fig. 16: Fixed Income Performance
% change over 3 months to 30 Dec 16

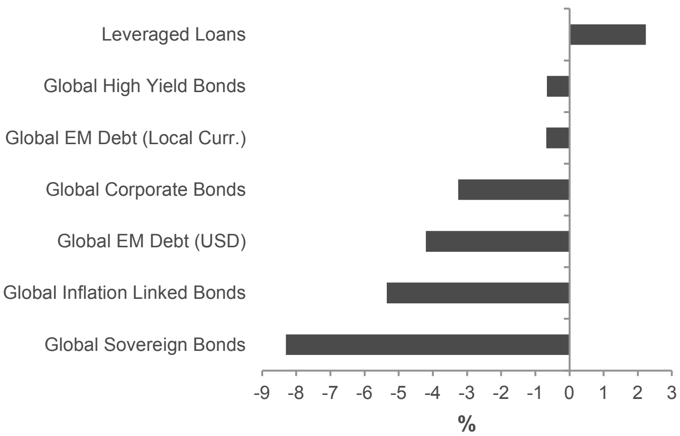


Fig.17: Commodities Performance
% change 3 month to 30 Dec 16

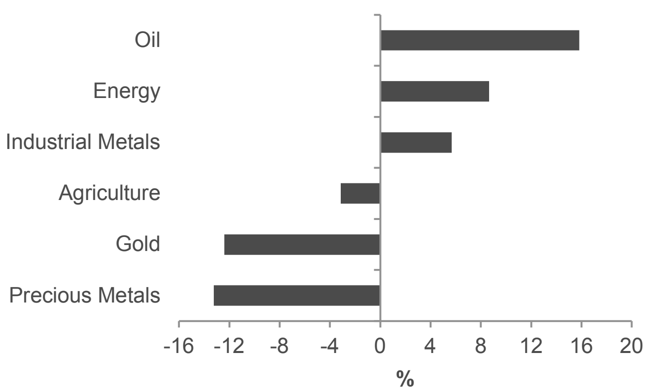


Fig. 18: FX Currency Pairs
% change 3 months to 30 Dec 16

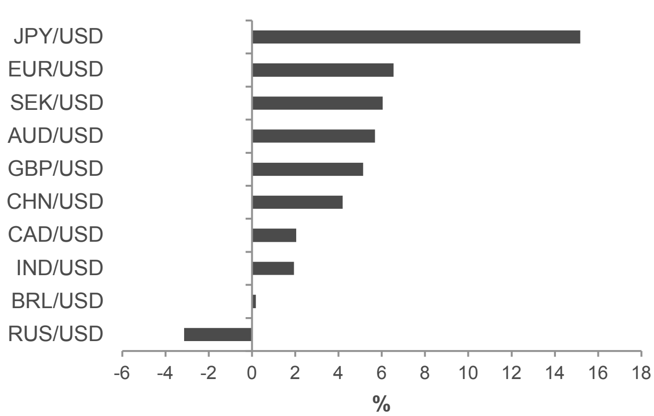


Fig 16, 17, 18 Source: Thomson Reuters Datastream & ISSG
Past performance is not indicative of future results.
See appendix for index definitions

Global Bond Markets:

	ISSG CMC View	Valuation Model	Momentum Model	RBAA Model	
Developed Sovereign Bonds	U/W / Neutral	Unfavorable	Favorable	Unfavorable	Yields have improved with the recent sell off, but are generally not high enough to compensate for the risk of policy shocks. We remain neutral in US treasuries as part of a portfolio risk reduction.
Inflation Linked Bonds	Overweight	Neutral	Favorable	Neutral	We remain overweight inflation-linked bonds and continue to prefer them to nominal bonds given the inflation adjusted capital preservation they offer portfolios at this point in an economic cycle, especially as inflation is picking up.
High Yield Bonds	Neutral	Neutral	Favorable	Unfavorable	We move to neutral on high yield bonds as spreads have come back in strongly as oil prices appear to have stabilized, but overall growth remains questionable at this point in the credit cycle and credit markets seem to be tightening on concerns of policy uncertainty.
Investment Grade Corporate Bonds	Neutral	Unfavorable	Favorable	Unfavorable	We move to neutral in investment grade bonds. Issuances continue to saturate markets at underwhelming yields. This further leveraging comes at a time where there is little top line growth or room for margin improvement that could improve coverage ratios going forward. Rising refi costs may be an issue going forward if top line growth does not start coalescing.
Emerging Markets – Local Currency Bonds	Neutral	Favorable	Unfavorable	Neutral	EM currencies have weathered the “Brexit” storm relatively well and have remained stable. Capital flows pressure appears to have eased as well despite a strengthening dollar as investors look to the sector for yield. Non-financial corporate debt in China remains a concern.
Emerging Markets – USD Bonds	Neutral	Neutral	Favorable	Favorable	We remain neutral on EM dollar based debt. The dollar should continue to exhibit positive momentum as a safe-haven currency in the post “Brexit” market landscape which will be supportive of EM hard currency debt. Geopolitical risk continues to be a concern in the form of changing political regimes.
Cash	Overweight	N/A	N/A	N/A	Given high valuations and policy uncertainty, we prefer to leave some dry powder available to look for contrarian ideas without taking duration risk.

Commodities:

	Neutral	We remain neutral to the commodity complex as energy prices are fairly range bound with new supply potential from shale. Questionable growth sustainability in China and stronger dollar are negatives for the demand picture as global growth seems to be slowing.

Currency:

EUR/USD	Neutral	Given the substantial role that the UK played in the European Monetary Union, we believe the Euro will continue to come under pressure due to the UK’s exit and possible exit of other countries in the future.
JPY/USD	Neutral	The Yen remains in a tough dichotomy between a “safe-haven” currency and a currency that is trying to be weakened by policy makers to spur export lead growth in Japan. For this reason we remain neutral.
EM: Asia/USD	Neutral	Chinese economic policy continues to dominate the landscape of both EM Asia currencies, but also the Asia/Pacific region broadly. The CNY remains at its lowest point to the currency basket peg in several years thanks in large part to a strengthening dollar.
EM: LATAM/USD	Neutral	Inflation still exists as a concern as it remains elevated near double digit levels. The search for yield will provide near term support to the region, but there are still questions regarding the ability of commodity heavy countries to grow in a global downturn.

ISSG Global Heatmaps

Fig. 19: ISSG Global Macroeconomic Heat Map

Global Macroeconomic Heatmap (Last 3 years as of 05-Jan-17)	Inflation	Inflation Revisions	Growth (PMI)	Growth Revisions	Monetary Policy	Surprise vs. Consensus	Company Earnings
United States	1.7%	-0.3%	54.7	-0.8%	0.9	28.9	-5%
United Kingdom	1.2%	0.0%	56.1	-0.7%	-0.2	59.5	1%
Eurozone	1.1%	-0.7%	54.9	-0.2%	-0.2	69.6	18%
Japan	0.5%	-1.2%	52.4	-0.2%	0.0	26.0	87%
Brazil/Latam	7.0%	-0.1%	45.2	1.1%	-0.4	52.2	27%
Russia/CEEMEA	5.4%	-1.1%	53.7	-0.6%	0.0	74.9	44%
India/Asia Pacific	3.2%	-0.3%	49.6	-0.7%	-0.5	-78.9	-53%
China	2.3%	0.0%	51.4	0.0%	0.1	42.2	8%

This heat map is designed to display a wide spectrum of macroeconomic trends across the major global regions over the past three years. Green and red shading indicate what we believe to be positive and negative levels, respectively, of the indicated variables; while green and red borders indicate positive and negative changes over the last quarter. Yellow shading indicates neutral readings. The time series lines are shown merely for ease of comparing trends, and are not meant to convey any particular values or levels. See appendix for series definitions and sources.

As we enter the first quarter of 2017, economic statistics present a somewhat more unified picture across globe, though notable divergences still remain. Revisions to inflation expectations are pointing upwards in the US, UK, and now the Eurozone. Growth in the US has recently shown new signs of robustness, in the form of PMI surveys and improved earnings, but revisions to growth expectations remain biased to the downside. Elsewhere, however, revised growth expectations have shown signs of bottoming and bouncing back. India has been an outlier to the downside, as the effects of demonetization continue to challenge the economy. Earnings surprises in many EMs are improving, with the exception of India. A further bright spot for global growth is the tenuous earnings recovery that appears to be taking place globally, and most especially in the EU, Japan, and China.

Fig. 20: ISSG Global Correlation Heat Map

Global Correlation Heatmap (Last 3 years as of 05-Jan-17)	World Equity	EM Equity	DM Bonds	EM $ Bonds	DM IG Corps Hedged	DM HY Corps Hedged	Commod	Dollar
World Equity	13.5%	0.79	-0.34	0.46	-0.09	0.68	0.45	-0.04
EM Equity		14.5%	-0.19	0.61	0.10	0.71	0.53	-0.19
DM Bonds			3.2%	0.23	0.79	-0.14	-0.19	0.00
EM $ Bonds				6.7%	0.49	0.72	0.41	-0.28
DM IG Corps Hedged					3.3%	0.30	-0.02	-0.11
DM HY Corps Hedged						5.7%	0.50	-0.18
Commod							14.6%	-0.39
Dollar								7.5%

The Global Correlation Heatmap is designed to convey levels and changes in correlation and volatility numbers across major asset classes. Numbers in the unshaded cells represent the current exponentially weighted volatility level, with green and red fonts representing low and high levels relative to a time-weighted 3 year mean. The lower left half of the Heatmap, displaying exponentially-weighted weekly correlation pair data for the last 3 years, is included to allow users to compare trends and is not meant to convey any particular values or levels. The upper right half of the Heatmap reflects the current observation for the same data series. Green and red shading indicate what we believe to be low and high levels, respectively, of the current observation relative to a time weighted 3 year mean, while green and red borders indicate a significant decrease or increase over the last quarter.

Correlations generally continue to rise around the globe, given the global reflation theme and exuberance around policy reform and fiscal spending in the US. As equity and bond correlation ticks up, investors receive a reduced benefit to diversification stock-bond allocation. This makes the allocation decision more of a binary choice, with performance determined to a greater extent by the forecast for risk appetite. Interesting to note is the rising correlation of USD and commodities. While still a negative relationship, the ability of commodities to rise in the face of a rising dollar suggests strong inflationary pressures (tight labor market, strong consumer, tax reform and infrastructure expectations) that, so far, can outweigh currency strength.

Performance Monitor - Global Capital Markets

Fig. 21: Capital Markets
% change over 1 year to 30 Dec 16

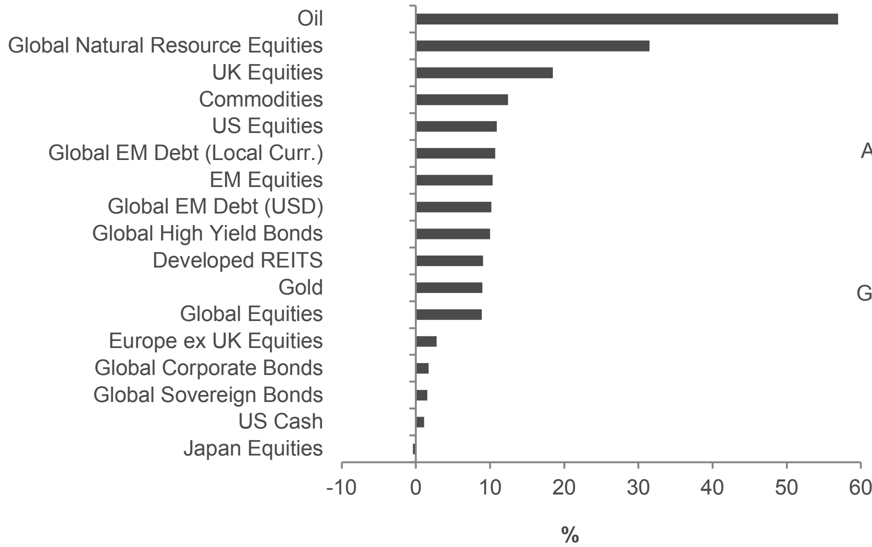


Fig. 22: Equity Country Index Performance
% change over 1 year to 30 Dec 16

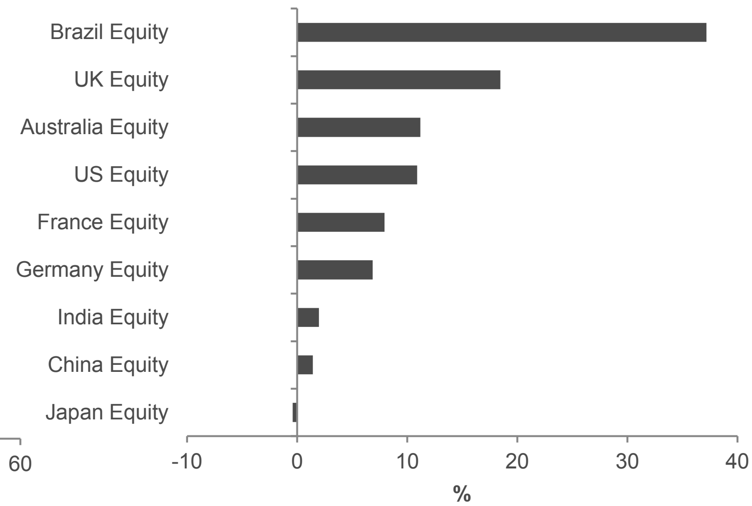


Fig. 23: Global Equity Performance
% change vs MSCI AC World Index over 1 year to 30 Dec 2016

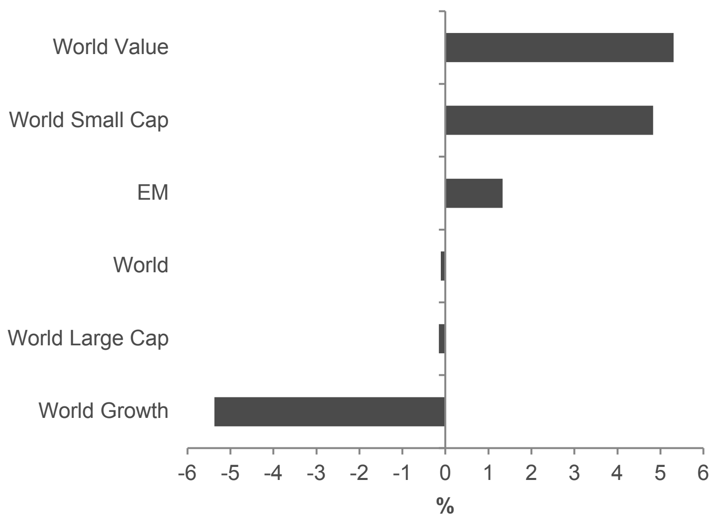


Fig. 24: Fixed Income Performance
% change over 1 year 30 Dec 16

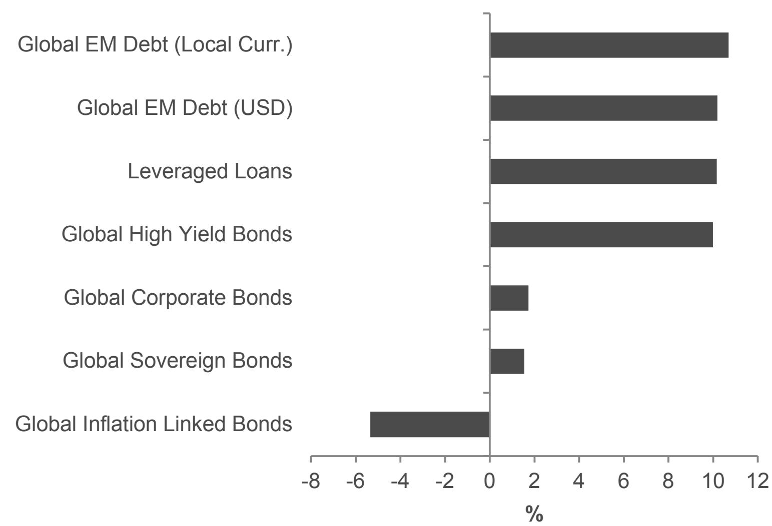


Fig. 25: Commodities Performance
% change 1 year to 30 Dec 16

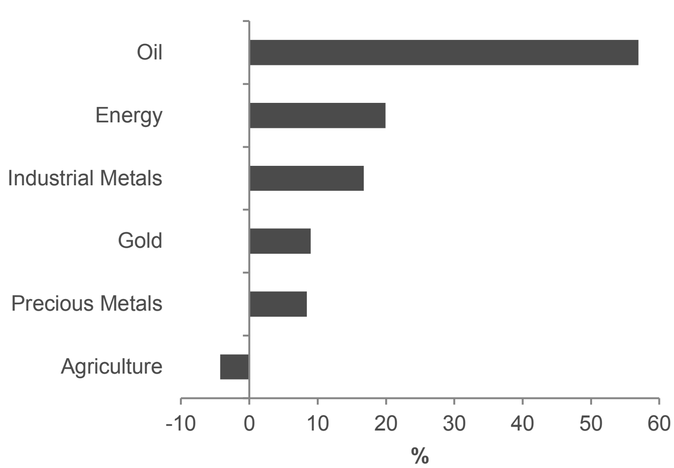
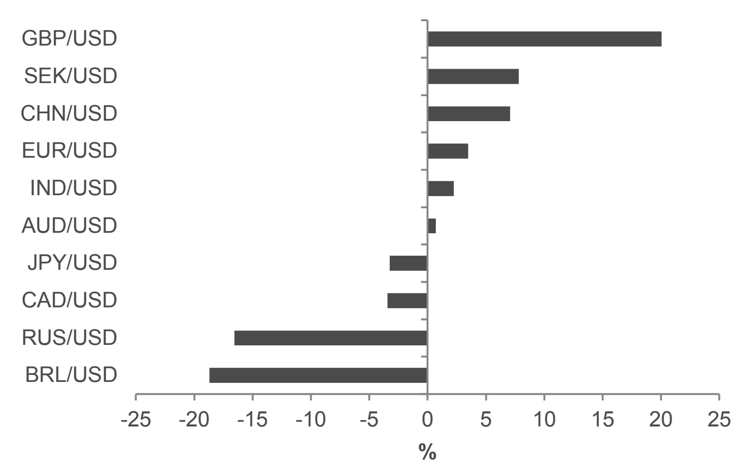


Fig. 26: FX Currency Pairs
% change 1 year to 30 Dec 16



Figs. 19, 20, 21 ,22, 23, 24 - Source: Thomson Reuters Datastream & ISSG
Past performance is not indicative of future results. See appendix for index definitions.

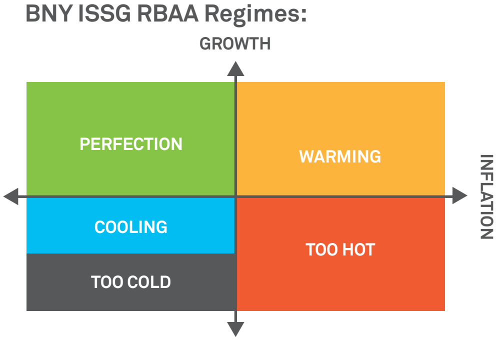
Appendix & Disclosures

ASSET	INDEX	DEFINITION
Commodities	Bloomberg Commodities Index Total Return (USD Index)	The Bloomberg Commodities index is an index that tracks the performance of broad based commodities.
Gold	Gold Bullion LBM USD/ozt	Tracks the performance of gold bullion spot prices.
Oil	Brent Crude Month FOB USD/BBL	Tracks the performance of Brent Crude Oil spot prices.
Global Sovereign Bonds	JPM Global GBI (USD Index)	Tracks the performance of global sovereign bonds.
Developed Sovereigns		US, UK, Japan, and German Sovereign Debt securities.
US Equity	S&P 500 (USD Index)	Tracks the performance of 500 of largest market capitalization equities in the United States.
US Cash	JPM US Cash Index (3M) (USD Index)	Tracks the performance of US 3 month treasury bills.
US Dollar	JPM USD Index Real Broad	Tracks the performance of the US Dollar against a basket of broad currencies.
Global Corporate Bonds	Barclays Global Agg Corp (USD Index)	Tracks the performance of aggregate corporate bonds.
Developed REITS	FTSE E/N Dev REITS (Local Currency)	Tracks the performance of global real estate investment trusts in developed markets.
Global Natural Resource Equities	S&P Gbl Nat Resource Equities (USD Index)	Tracks the performance of global equities linked to natural resources.
Global Investment Grade Bonds	Barclays Inv Grade Corporates (USD Index)	Tracks the performance of aggregate investment grade corporate bonds.
Global Inflation Linked Bonds	Barclays Global Agg Infl-Lkd (USD Index)	Tracks the performance of global inflation linked bonds.
Global High Yield Bonds	Barclays Global High Yield (USD Index)	Tracks the performance of global high yield bonds rates below investment grade.
World	MSCI World Total Return (LC Index)	A broad global equity benchmark that represents large and mid-cap equity performance across 23 developed markets countries.
Global Equity	MSCI AC World Index	Tracks the performance of developed and emerging market global equities.
Global EM Debt (USD)	JPM EMBI Global Composite (USD Index)	Tracks the performance of dollar based emerging market sovereign bonds.
EM Equities	MSCI Emerging Markets (LC Index)	Tracks the performance of emerging market equities.
UK Equities	FTSE 100 (LC Index)	Tracks the performance of equities domiciled within the United Kingdom.
Europe Ex UK Equities	MSCI Europe ex UK (LC Index)	Tracks the performance of equities domiciled in Europe and not including the UK.
Japan Equity	MSCI Japan (LC Index)	Tracks the performance of equities domiciled in Japan.
Pacific Ex Japan Equity	MSCI Pacific ex Japan (LC Index)	Tracks the performance of equities domiciled in the Asia - Pacific region but not including Japan.
Germany Equity	DAX 30 (LC Index)	Tracks the performance of 30 of largest equity market capitalization companies in Germany.
Eurozone Equity	EuroStoxx 50 (LC Index)	Tracks the performance of 50 of largest equity market capitalizations in the Eurozone.
France Equity	CAC 40 (LC Index)	Tracks the performance of 40 of the largest equity market capitalizations of France.
Australia Equity	ASX All Ordinaries (LC Index)	Tracks the performance of the largest equity market capitalizations of Australia.
Brazil Equity	MSCI Brazil (LC Index)	Tracks the performance of the equities domiciled in Brazil.
India Equity	MSCI India (LC Index)	Tracks the performance of equities domiciled in India.
China Equity	MSCI China (LC Index)	Tracks the performance of equities domiciled in China.
World Growth	MSCI World Growth (LC Index)	Tracks the performance of growth oriented equities as defined by MSCI.
World Large Cap	MSCI World Large Cap (LC Index)	Tracks the performance of large equity market capitalization companies.
World Value	MSCI World Value (LC Index)	Tracks the performance of value oriented equities as defined by MSCI.
World Small Cap	MSCI World Small Cap (LC Index)	Tracks the performance of small equity market capitalization companies.
Leveraged Loans	S&P Leveraged Loan Index (USD Index)	Tracks the performance of leveraged loans.
Global EM Debt (Local Curr.)	JPM GBI Emerging Markets (LC Index)	Tracks the performance of local currency denominated emerging market bonds.
Agriculture	S&P GSCI Agriculture Total Return (USD Index)	Tracks the total return performance of agricultural commodity futures.
Precious Metals	S&P GSCI Precious Metals Total Retn	Tracks the total return performance of futures for precious metals related futures.
Industrial Metals	S&P GSCI Industrial Metals Total Retn (USD Index)	Tracks the total return performance of futures for industrial metals related commodities.
Energy	S&P GSCI Energy Total Return (USD Index)	Tracks the total return performance of futures for energy related commodities.
EUR/USD	EUR/USD	Tracks the performance of the Euro / US Dollar exchange rate.
RUS/USD	RUS/USD	Tracks the performance of the Russian Ruble / US Dollar exchange rate.
CHN/USD	CHN/USD	Tracks the performance of the Chinese Renminbi / US Dollar exchange rate.
SEK/USD	SEK/USD	Tracks the performance of the Swedish Krona / US Dollar exchange rate.
GBP/USD	GBP/USD	Tracks the performance of the British Pound / US Dollar exchange rate.
AUD/USD	AUD/USD	Tracks the performance of the Australian Dollar / US Dollar exchange rate.
BRL/USD	BRL/USD	Tracks the performance of the Brazilian Real / US Dollar exchange rate.

ASSET	INDEX	DEFINITION
CAD/USD	CAD/USD	Tracks the performance of the Canadian Dollar / US Dollar exchange rate.
IND/USD	IND/USD	Tracks the performance of the Indian Rupee / US Dollar exchange rate.
JPY/USD	JPY/USD	Tracks the performance of the Japanese Yen / US Dollar exchange rate.
EM LATAM/USD		Considers the aggregate performance direction of a basket of currencies from Latin American countries as defined in the JPM GBI Emerging Markets Index.
EM Asia/USD		Considers the aggregate performance direction of a basket of currencies from Asian countries as defined in the JPM GBI Emerging Markets Index.
EUR FX		Tracks the performance of the Euro / US Dollar exchange rate.
GBP FX		Tracks the performance of the British Pound / US Dollar exchange rate.
JPY FX		Tracks the performance of Japanese Yen / US Dollar exchange rate.
EM FX		Tracks the performance of a basket of Emerging Markets currencies versus the US Dollar.
US 10Y Yield		Tracks the performance of the yield on the 10 year US treasury note.
Inflation	Headline Consumer Price Index	Tracks the performance of inflation as reported by respective national economic statistics bureaus.
Growth (PMI)		Tracks the performance of purchasing managers indices in each country to proxy GDP growth.
Company Earnings		A proprietary diffusion index of positive and negative analyst earnings estimate revisions.
Monetary Policy		Derived from the futures curve for short term interest rates as indicative of central bank policy.
Inflation Revisions		A proprietary measure of cumulative economist revisions for future levels of inflation in a country.
Growth Revisions		A proprietary measure of cumulative economist revisions for future real economic growth in a country.
MSCI EM Index	MXEF Index	The MSCI EM Index is a free-float weighted equity index that captures large- and mid-cap representation across EM countries.
US Dollar Index	DXY Curncy	The US Dollar Index indicates the general value of the USD by averaging the exchange rates between the USD and major world currencies.
ISM Manufacturing PMI	NAPMPMI Index	The ISM Manufacturing Index is based on data complied from a nationwide survey of purchasing and supply management activities.
ISM Manufacturing Report on Business Inventories	NAPMINV Index	The ISM Manufacturing Report on Business Inventories is compiled from a nationwide survey of more than 300 manufacturing firms.
US Government Debt-to-GDP	ISG%USA Index	All financial liabilities of a government as a percent of GDP.
UK Government Debt-to-GDP	ISG%GBR Index	All financial liabilities of a government as a percent of GDP.
Germany Government Debt-to-GDP	IDH%DEU Index	All financial liabilities of a government as a percent of GDP.
France Government Debt-to-GDP	IDH%FRA Index	All financial liabilities of a government as a percent of GDP.
Japan Government Debt-to-GDP	ISG%JPN Index	All financial liabilities of a government as a percent of GDP.
US CPI	CPI YOY Index	US Consumer Price Index, urban consumers YoY NSA.
Germany CPI	GRCP20YY Index	Germany Consumer Price Index, all items YoY.
Japan CPI	JNCPIYOY Index	Japn Consumer Price Index, nationwide YoY.
Federal Reserve Bank of St. Louis	All	The total face value of US Treasury securities held by the Federal Reserve.
Federal Reserve Bank of St. Louis	over 10 years	The total face value of US Treasury securities held by the Federal Reserve, maturing in over 10 years.
Federal Reserve Bank of St. Louis	5-10y	The total face value of US Treasury securities held by the Federal Reserve, maturing in 5-10 years.

These benchmarks are broad-based indices which are used for comparative purposes only and have been selected as they are well known and are easily recognizable by investors. Comparisons to benchmarks have limitations because benchmarks have volatility and other material characteristics that may differ from the portfolio. For example, investments made for the portfolio may differ significantly in terms of security holdings, industry weightings and asset allocation from those of the benchmark. Accordingly, investment results and volatility of the portfolio may differ from those of the benchmark. Also, the indices noted in this presentation are unmanaged, are not available for direct investment, and are not subject to management fees, transaction costs or other types of expenses that the portfolio may incur. In addition, the performance of the indices reflects reinvestment of dividends and, where applicable, capital gain distributions. Therefore, investors should carefully consider these limitations and differences when evaluating the comparative benchmark data performance. The foregoing index licensers are not affiliated with The Bank of New York Mellon Corporation, do not endorse, sponsor, sell or promote the investment strategies or products mentioned in this presentation and they make no representation regarding advisability of investing in the products and strategies described herein. Valuation Model – The ISSG Valuation Model considers relative valuations across the asset classes that we rank. We consider the current values placed on future cash flows of the securities against their historical longer-term trend levels. Momentum Model – The ISSG Momentum Model considers relative price momentum across the asset classes that we rank. Our research shows that this can be an indicator of continued appreciation potential in the future. RBAA Model – The ISSG Regime Based Asset Allocation Model defines five macroeconomic regimes based on the interaction of growth and inflation expectations. We believe changes to these expectations drive regime shifts and influence asset returns.

BNY ISSG RBAA Regimes:



CORRELATION HEAT MAP DEFINITIONS

ASSET CLASS	INDEX — please see disclosure definitions
World Equity	MSCI AC World (LC Index)
EM Equity	MSCI Emerging Markets (LC Index)
DM Bonds	JPMorgan GBI Global Unhedged
EM $ Bonds	JPMorgan EMBI Global Composite (USD Index)
DM IG Corps Hedged	Barclays Global Aggregate Corp Index (USD Index)
DM HY Corps Hedged	Barclays Global High Yield (USD Index)
Commodities	Dow Jones – UBS Commodities Index Total Return (USD Index)
Dollar	US Dollar Index

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