

Global Market Perspective

LOW EXPECTED RETURNS CALL FOR NONTRADITIONAL APPROACHES

Risk assets have had a strong start in 2017, but earning sufficient returns over the long run is going to be a challenge. Overcoming low real bond yields, tight credit spreads and elevated equity valuations will require new strategies and creative thinking.

How We Are Positioned and Where the Opportunities Are

We have maintained a procyclical orientation in our portfolio so far this year, with overweight positions in equities and high-yield credit. Within equities, we're emphasizing Europe and Japan over the US. So far, there's been little difference in the returns from these regions; all have averaged around 2%–3% year to date. But we believe the US is likely to underperform as the year progresses. Unattractive valuations, a strong dollar and divergent monetary policies around the world should conspire to disappoint those with high expectations for this market. In portfolios that permit style tilts, we're leaning toward growth/core equities in the US. Most of our value exposure comes from non-US developed and emerging markets (*Performance, page 9*). (continued)

Current Positioning

	Position	Trend	Overweight	Underweight/Short		
Equities	+	Flat	Japan, Europe	US		
Comments and Recent	Activity: Absence	of traditional ex	cesses that mark end of cycle; d	leclining volatility; overweight		
regions with relative gr	owth					
Sovereign Bonds	0/-	Flat	US, Australia, Canada	Japan, Europe		
Comments: Low real ra	ates; no exposure to	o Japanese bor	nds; overweight CAN, US, AUS s	overeigns for higher yields		
IG Credit	0/+	Flat				
HY Credit	0/+	Flat	US, EM			
Comments: EM spread	s have come in for	both EM and H	IY credit			
			EM Oil Producers			
Petroleum	+	Flat	Currencies, Equities			
Comments: Supply gro	wth decelerates as	capex cuts offs	set gains from technology			
Industrial Metals	-	Flat				
Comments: Attractive	value; slow recover	у		-		
Precious Metals	0	Flat				
Comments: Increased	attractiveness due t	o decline in rea	al yields			
Equity Style		Flat	GaRP in US, Value in EAFE	Value in US		
Comments: —				1		
Currencies		Flat	USD, NOK	EUR, CHF		
Comments: —			1	1		

Highest-conviction ideas/active positions

-/0/+ Refer to underweight, neutral and overweight positions vs. strategic allocation

Highlights

- Investors recognize that returns from traditional assets are likely to be lower over the long term. To compensate, they may want to start thinking about ways to access alternative risk premiums.
- Adding return through manager selection and alternative risk premiums is attractive, but implementation challenges are substantial and only now starting to be addressed.
- Conditions are ripe for a gradual but sustained rise in inflation, which argues for exposure to assets that are likely to thrive in a reflationary environment.

This publication offers investors a systematic, comprehensive assessment of the global economy and the world's capital markets. Using a short horizon, we analyze current and emerging trends, risks and opportunities across countries, regions and asset classes, providing perspective on the global investing landscape investors face today. These materials present the viewpoint of the Multi-Asset team and do not necessarily represent the views of other AB portfolio-management teams. Our current high-yield credit positioning ranges from neutral to slightly overweight across products, depending on the mandated requirements for generating current income. Strong highyield performance in 2016 generally continued into 2017, and a favorable economic environment and liquidity should be tailwinds in the months ahead. However, most of the distressed pricing in energy and commodities has been eliminated, and overall valuations are, at best, neutral. This suggests a repeat of 2016's outsize gains is unlikely.

In general, global bonds had a slightly positive return in 2016 and are relatively flat so far this year. US breakeven inflation rates, as measured by Treasury Inflation-Protected Securities and CPI swaps, surged in late 2016 but have barely budged year to date, as weaker wage growth and uncertainties surrounding political reform have offset strong economic data and labor growth.

Breakeven inflation in Europe has been lower than in the US, but it followed a very similar path. Japan was an outlier; implied inflation increased last year and has continued to do so in 2017. For now, though, the upward pressure on bond yields has eased as investors monitor wages and look for evidence of fiscal stimulus.

Investor Focus: From Growth to Inflation?

It is equally important to monitor investor sentiment. One indicator of the nature of investor fears is stock-bond correlations. We view negative correlations between stocks and bonds as a signal of investors' "growth fears" and positive correlations as a signal of "inflation fears."

For example, if investors think inflation will accelerate and force the Federal Reserve to raise interest rates, we would expect bonds to fall (and their yields to rise) and equities to sell off as investors start pricing in constrained liquidity and the end of the business cycle.

When growth fears dominate, on the other hand, stocks and bonds tend to be negatively correlated. If growth slows, for example, equities would sell off and bonds would rally.

Since 2003, bonds have been an exceptionally effective diversifier for equities, thanks to low inflation and slow real growth. Prior to that period, stocks and bonds have had

Display 1 Investing Is About Time Horizon

What Matters

- + Long term (3–10 years)
- + Expect lower returns
- + High cost of diversification
- + Decade of subpar alternatives returns
- + Medium term (1–3 years)
 - + Government policies vs. rhetoric
 - Low productivity and business starts
 Rising government, emerging-market debt levels
- + Short term (up to 1 year)
 - + Earnings growth vs. P/E compression
 - + Confirmation of reflation trend

As of January 31, 2017 Source: AB

What Should You Do? + For the long term

- + Lower expectations/use leverage
- + Add returns from manager selection
- + Make directional bet on reflation
- + For the medium term
 - + End of deflation fears; start of liquidity fears
 - Tactical asset allocation to address
 "good" vs. "bad" inflation
 - + Thematic, late-cycle growth exposures
- + For the short term
 - + Bet against excessive US growth optimism
 - + Returns to crowded trades rebound

Display 2 Significant Changes in How Investors Source Returns

Return Sources	Manager Skill Set	Typical Fees
Alpha	Security selection	40–200 b.p. of AUM and 20% of performance
Tactical Alpha	Tactical allocation across betas, diversifiers and factors	40–200 b.p. of AUM and 20% of performance
Factors	Factor identification and construction	8–50 b.p.
Market Beta	Low-cost provider/scale	1–8 b.p.

As of January 31, 2017 Source: AB

extended periods of positive correlation. This supported growing demand for bonds from risk-aware strategies such as risk parity.

Thus far, upward spikes in correlation between stocks and bonds have been short-lived. However, if positive correlation between the two becomes more persistent as inflation concerns rise, demand for bonds as a diversifier could dry up. That would put additional upward pressure on rates.

Dollar Takes a Breather; Commodities a Mixed Bag

The US dollar rose steadily in the last four months of 2016, but gave back part of its gains this year. The recent gains look fairly modest in the context of what we consider to be significantly improved prospects. Consider that in 2014, the dollar appreciated by 25% as a result of diverging monetary policies and the relative strength of the US economy. In 2017, we see potentially stronger tailwinds. First, protectionist policies may create lower deficits. Second, lower taxes and preferential treatment for US-based manufacturing could lift foreign direct investment. Finally, expansive fiscal policy could lift growth and relative rates.

The dollar's recent lackluster performance can be partly explained by technical factors; being long dollars was already the consensus position among investors. A second and more fundamental reason may be that many of the economic and sentiment indicators appear to be peaking. In other words, the current outlook may be as good as it gets, and markets are preparing for negative surprises. Notably, US corporate earnings results and guidance have been overshadowed by those from companies in other developed markets. Also, it's becoming increasingly difficult to discern the administration's policy priorities. Its initial edicts have had little to do with lifting economic growth.

We expect the dollar to remain range bound for the first half of the year. After that, its direction will depend on the nature of government policies and wage growth trends. In the meantime, the stronger dollar will continue to be a headwind for US earnings through the middle of the year (as it was in 2016), which supports our preference for companies in other developed markets over those in the US.

Commodities are a mixed bag so far this year. Energy is down around 3% through early February, while gold, industrial metals and agricultural commodities are up in the mid-single digits. At this point, we are still overweight the commodities complex (through the BCOMTR index), one of our thematic investment ideas for 2017.

Time Horizon Critical to Achieving Investment Outcomes

We consider time horizon to be the single most defining characteristic of the investment process. Yet it's the one variable that is routinely omitted from most forecasts. One's time





Through January 31, 2017 Source: Bloomberg and AB

Display 4 Annualized Returns to Alternative Risk Premiums October 2008–January 2017



As of January 31, 2017 Source: AB

horizon for achieving a particular investment outcome determines turnover/capacity, risk management and modeling, the nature of the risk premium being exploited, the personality of the managers that you select, etc. Time horizon also determines specific investment choices and what opportunities or market dislocations an investor might try to capitalize on.

Our current positioning is generally consistent with a six- to 12-month horizon (*Current Positioning, cover page*). The rationale for our current positioning, and the key data we are monitoring, can be found in our 2017 Outlook, published in the

December 2016 edition of the Global Market Perspective. The remainder of this publication will focus primarily on mediumand long-term issues (*Display 1, page 2*).

Three Strategies to Combat Lackluster Traditional Asset Returns

Investors seem to have broadly accepted the notion that excess returns from bonds, credit and equities over the next few years will be 2%–4% lower than their historical averages. Real bond yields are extremely low, credit spreads are narrow and equities are trading at elevated valuations on relatively high corporate margins. At the same time, pervasive structural challenges to global economic growth limit corporate earnings potential.

Numerous studies have tried to measure the magnitude of the potential shortfall in retirement funding, but most suggest that 25%–50% of the people retiring in the US during the next decade will be unable to replace even 50% of their income during retirement. Similarly, closed foundations are struggling to deliver 5% payout and maintain an inflation-adjusted level of assets at perpetuity, which would require a roughly 7% total return. Most investors need long-term returns that are higher than the 4%–4.5% expected from a typical 60/40 stock/bond portfolio.

In today's environment, we see three potential approaches to boost portfolio returns:

- Use a diversified portfolio of alternative risk premiums
- Choose managers skilled in security selection and tactical asset allocation
- Tilt portfolios toward inflationary economic outcomes

We'll discuss each of these approaches below. Implementing them requires investors to have a strategic allocation process that is based on risk, rather than notional values (*Display 2*, *page 2*).

Perhaps even more important: investors will need a framework for achieving the target risk through appropriate fund implementation. They'll also have to continually monitor the portfolio to be sure it adheres to strategic targets in different investment settings.

Display 5

Little Persistence in Manager Performance



As of January 31, 2017

Defunct funds are excluded; 1990–2014; universe: US large-cap funds Source: eVestment and AB

Display 6

There Is Persistence in "Prime Alpha"



As of January 31, 2017 Defunct funds are excluded; 1990–2014; universe: US large-cap funds Source: eVestment and AB

This is becoming easier, as suppliers of money-management services are starting to deliver "pure" risk exposures and deploying the same frameworks to illustrate where they add value.

Still, assembling a portfolio of numerous third-party strategies subjects investors to the occasional buildup of unintended risk exposures. Historically, this has led to severe drawdowns and periods of underperformance.

Alternative Risk Premiums: Easy to Access, but High Absolute Returns Require Leverage

Investors in recent years are increasingly turning to multi-asset factor (or risk premium) portfolios. Pension funds, insurance companies and endowments have all used these strategies to augment existing alternative or hedge fund allocations. The so-called "style" risk premiums, such as value, carry, momentum and defensive strategies, are by far the most popular and have captured the highest flows. Numerous brokers and asset managers already provide these exposures in a variety of vehicles.

Additionally, there is growing interest in hedge fund replication strategies, such as M&A arbitrage, activist strategies or high hedge-fund ownership, as well as others. These can be used to capture the underlying compensation for systematic risk, but not the idiosyncratic security selection undertaken by a hedge fund. Finally, there are examples of structural risk premiums, which attempt to capitalize on projected market imbalances. These would often include anticipating various versions of index rebalancing.

Style risk premiums have the longest history of back-tested efficacy and enjoy the strongest academic support (*Display 3, page 3*). In recent years, the efficacy of these strategies has declined—but returns are still positive.

Hedge fund replication and structural risk premiums, likewise, have delivered highly favorable uncorrelated returns (*Display 4, page 3*). The performance of these strategies over the past seven or eight years has been exceptionally strong, and could potentially mean-revert. Still, the strategies have sound theoretical underpinnings as compensation for various flavors of risk. As a result, they should remain effective over the long term.

The key challenge with all of these approaches is achieving sufficiently high absolute returns. Achieving the required 5%–7% premium to cash often requires seven to 10 times leverage, since a diversified set of uncorrelated risk premiums (leverage of 2:1) generally has volatility and expected returns below 1.5%. At such a high level of leverage, robust governance and risk management are essential.

Getting the Manager Selection and the Timing Right

The second approach to increasing returns relies on manager

Display 7 Incremental Returns from Manager Selection



As of January 31, 2017

Positive returns for the bottom quartile may include some survivorship bias. Source: AB

Display 8 Potential vs. Realized Real GDP Growth



Historical analysis and forecasts do not guarantee future results. As of January 31, 2017 *Eurozone historical GDP growth from 1995

Source: The Conference Board, Haver Analytics, United Nations and AB

selection and tactical allocation. In some ways, the recent debates about the value of active management miss the point. Stock selection often relies on rule-based processes and research to gain an information edge. Managers have different horizons, skill levels and levels of risk aversion. They tend to outperform when there is demand for their type of skill such that similar strategies gather inflows. Recent outflows from active management have adversely affected the performance of most strategies. This makes it extremely difficult to identify managers who can add value through pure security selection. Simply observing past performance won't work (*Display 5, page 4*). This is partly because the best-performing managers often rely on systematic exposures rather than stock selection to drive returns (*Display 6, page 4*). Systematic exposures may outperform for three to five years at a time, which results in crowding and leads to underperformance thereafter.

As we've noted in the past, one way to use active management is to focus on "prime alpha": a measure of manager performance net of systematic factors. Positive prime alpha tends to persist, allowing allocators to select managers to enhance future returns (*Display 7, page 5*). As an added benefit, identifying managers with positive prime alpha fits neatly with the framework shown in Display 2, page 2.

However, there are significant challenges to getting the implementation right. It would be wrong to conflate high prime alpha with high active share or a high level of concentration, as those approaches may still carry significant systematic exposures. Therefore, implementing active strategies effectively calls for either selecting factor-neutral money managers, which is extremely limiting, or using an overlay strategy to manage systematic risks. This may seem complicated. But the payoff is substantial, both in terms of greater fee efficiency and less volatile outcomes.

In addition to sourcing returns from security selection, investors should view tactical allocation as a platform to deliver target risk reduction and enhance performance. The conceptual incorporation of these strategies is relatively straightforward in the context of the risk allocation framework. But the challenge, again, comes with implementation.

Investors must consider whether to time their exposure to a given risk premium or diversifier and how to monitor their allocation throughout the business cycle. In addition, they should decide on a method of timing, which may be quantitatively (e.g., by monitoring valuation spreads) or fundamentally driven (e.g., by monitoring the business cycle).





Through January 31, 2017 Source: World Bank and AB

Display 10 Long-Term Inflation for the US Spikes from Financing of Wars (Percent)



Historical analysis and forecasts do not guarantee future results. Through January 31, 2017 Source: MeasuringWorth.com and AB

In general, quantitative approaches tend to provide a more disciplined risk allocation, and both are viable with the appropriate level of governance.

High Government Debt and Low Real Growth Potential Pave the Way for Reflation

We view positioning for inflationary outcomes as another way of enhancing long-term performance. High debt-to-GDP ratios

across major economies leave governments with two policy options: either return to disinflationary policies and risk recession—and possibly default in the long run—or integrate aggressive fiscal and monetary policies. The latter is more likely—and it will be reflationary. That argues for a portfolio that tilts toward assets likely to do well when inflation rises.

Governments have relied primarily on monetary policy since the global financial crisis to stimulate end-demand. However, the current outcome appears to be persistently slow growth and asset price inflation, which has widened economic inequality. This has increased popular support around the world for fiscal stimulus and protectionism. As we've pointed out before, we see potential for fiscal policy to accelerate nominal growth by stimulating public and private capital investment and inflation.

Demographic trends and lackluster productivity suggest that potential real GDP growth is well below recent realized growth across major economies (*Display 8, page 5*). As we have started to see in Japan, rising labor force participation could offset the effect of stagnant or shrinking working-age populations. But beyond the US, the upside potential in other countries appears to be limited.

Productivity is harder to analyze and predict, but any impact from currently available technologies is likely to be relatively small and far in the future. For example, 5G mobile technologies are expected to make a broad range of things possible, including widespread drone use, autonomous vehicles, telehealth, smart homes and agriculture, etc. But a report from IHS Markit anticipates an impact of about 0.2% incremental GDP growth per year between 2020 and 2035.

One potential driver of improvement in real growth could be capital formation. The share of GDP spent on capital goods by governments and corporations remains below precrisis levels (*Display 9, page 6*). We see room for governments to spend more on infrastructure and defense projects and to provide incentives for businesses to increase investment. Capital spending by corporations has been depressed over the past couple of years, and improving sentiment as well as potential policy measures (e.g., full expensing of investments and lower taxes) could provide a boost.

Display 11 World Merchandise Trade Volume Index 2005 Average = 100



Through January 31, 2017 Source: World Trade Organization and AB

The Inflation Solution

Inflation might be the most significant lever available to governments to reaccelerate nominal growth. We don't think this possibility is fully priced into the market. While most reflation assets have significantly outperformed since the middle of last year, implied inflation is still significantly below realized inflation over the past 40 years.

It's difficult, though, to pinpoint the exact sources of future inflation. In the past, prolonged episodes of rising prices were associated with wars (credit creation followed by currency collapse), commodity shocks and policy mistakes (*Display 10, page 6*). During recent years, aggregate goods and services inflation was low, but asset prices and luxury-goods prices escalated sharply.

Going forward, there are countervailing forces. Upward pressure on wages and increases in capacity utilization may be offset by increases in automation. The potential positive impact of cutbacks in oil and gas exploration on energy pricing may be offset by declining energy intensity of GDP growth and improving economic prospects for renewables. Currency depreciation in one country will likely be met by currency depreciation in its trading partners. In the end, we think inflation will accelerate—but only gradually. The optimization of global supply chains over the last 30 years has led to rising productivity, lower prices and higher profits. However, it's also made inflation more global in nature and susceptible to tax policies and trade wars in different countries. Slower global trade flows are symptoms of declining marginal benefits (*Display 11, page 7*). We are certainly not predicting an outright trade war, but rising protectionist sentiment could reverse some of the gains achieved over the past few decades.

Protectionism is at best a zero-sum game. It distorts consumer and corporate behavior and in the long run yields suboptimal global economic outcomes. Even within the domestic economy, any broad measure is likely to create clear winners and losers. And taxes and tariffs may have unintended consequences that are difficult to predict and would offset the benefits they were designed to deliver.

For example, the proposed border adjustment tax (BAT) in the US would require companies to pay taxes on imports and not on exports. All else being equal, this could decimate the already thin margins of US retailers. Estimates from Barclays suggest that a 20% BAT could more than double or triple the tax bill of the average US retailer, including Dollar General and Walmart, which primarily serve lower-income consumers. Retailers would likely pass this cost increase—at least in part—on to consumers, resulting in rising consumer inflation.

We would expect similar price adjustments across all segments of the economy, depending on their import/export share, which could result in significant resource allocation. The same study by Barclays estimates that a 20% BAT would increase core inflation by 0.5%–1.0% and reduce real growth by 1%–1.5%. And how such a policy would treat the services industry, such as finance, would make implementation that much more complicated.

Economic theory suggests that the dollar could strengthen to offset any impact on relative pricing imports and exports. Such an adjustment would not only neutralize any tax benefit to exporters, but it could also result in an increase in global volatility as dollar-denominated debt obligations get repriced.

When It Comes to Reflation, Be Flexible

Valuations of economically sensitive stocks and sectors remain attractive. Their performance over the last eight months reflects signs of improving economic growth, better sentiment, and political outcomes that favor fiscal stimulus and deregulation. Since inflationary pressures are likely to be somewhat different from what we observed in the past cycles, investors need flexibility in how they implement portfolio tilts.

In particular, we recommend using a portfolio that combines many of the traditional reflation assets (e.g., commodities) with derivatives (e.g., CPI swaps) and currencies while retaining the ability to allocate to sectors that can demonstrate increased pricing power (e.g., healthcare and luxury goods).

In the medium term, we also favor areas of the market that are likely to benefit from rising corporate and government capital investment. Longer term, we see growing risks to bond investments. Investors can allocate to reflation investments via a separate sleeve or by netting their allocation against other portfolio exposures (e.g., underweight bonds).

Performance

Broadly Stable Economic Indicators and Policy Uncertainty Resulted in Some Reversal in Performance

Equity Returns by Region

	1 Mo.	3 Mo.	1 Yr.	3 Yr.	3-Yr. Percentile
Global	1.6%	6.3%	17.1%	8.3%	56%
DM	1.3	6.8	16.7	8.5	46
US	2.0	7.6	19.6	10.0	54
Canada	0.8	5.1	22.8	6.7	43
UK	-0.5	2.7	21.4	6.5	29
EU ex UK	-0.3	5.6	8.6	6.2	56
Japan	0.1	9.5	7.6	8.6	54
Australia	-0.5	7.5	18.4	7.1	38
EM	4.0	1.8	20.3	5.8	42
Asia	4.4	1.7	19.2	5.6	37
LatAm	5.3	-0.9	33.4	8.3	51

Equity Global Sector Returns

	1 Mo.	3 Mo.	1 Yr.	3 Yr.	3-Yr. Percentile
Financials	1.0%	12.4%	22.5%	6.3%	69%
Consumer Discretionary	2.3	6.7	11.0	7.5	52
Technology	4.5	5.2	22.9	12.5	79
Industrials	1.4	7.7	19.2	6.4	51
Materials	5.2	11.1	41.7	4.1	64
Energy	-3.3	4.9	24.1	-3.2	28
Consumer Staples	0.5	-1.1	1.8	8.0	52
Healthcare	1.3	3.7	1.3	6.4	52
Telecom	-0.4	3.4	2.8	3.0	46
Utilities	-0.1	-1.9	2.6	4.0	61
Cyclicals–Defensives	1.3	8.2	13.5	1.2	54

Bond Returns by Region

	1 Mo.	3 Mo.	1 Yr.	3 Yr.	3-Yr. Percentile
Global	-0.7%	-1.9%	1.5%	3.7%	8%
DM	-0.7	-1.9	1.6	3.7	11
US	0.2	-2.6	-0.8	1.9	8
Canada	0.3	0.0	9.6	13.1	21
UK	-0.1	2.3	17.1	15.3	55
EU ex UK	-1.8	-2.3	0.7	4.9	20
Japan	0.2	0.4	15.6	11.4	22
Australia	0.7	0.4	11.3	14.1	43
EM	0.0	-2.4	-0.1	3.2	15
Asia	-0.1	-2.4	0.2	3.5	11
LatAm	0.1	-4.9	-4.7	1.8	1

Spot Currency Returns

	1 Mo.	3 Mo.	1 Yr.	3 Yr.	3-Yr. Percentile
USD	-1.6%	0.9%	-0.5%	3.8%	84%
CAD	3.1	2.9	7.2	-5.1	9
EUR	2.7	-1.7	-0.3	-7.1	15
CHF	3.0	0.0	3.4	-2.9	23
GBP	1.9	2.8	-11.7	-8.5	12
NOK	4.8	0.2	5.3	-8.7	11
JPY	3.7	-7.1	7.4	-3.3	22
AUD	5.2	-0.3	7.1	-4.7	33
CNY	1.2	-1.4	-4.2	-4.1	38

Bond Strategy Returns

	1 Mo.	3 Mo.	1 Yr.	3 Yr.	vs. History
Global Inv. Grade	0.1%	-1.2%	5.9%	4.0%	25%
US Inv. Grade	0.2	-2.0	1.5	2.6	5
Europe Inv. Grade	-1.4	-2.1	1.0	4.2	26
EM Inv. Grade	0.9	-1.8	7.0	4.2	11
Global High Yield	1.5	2.2	18.8	6.0	28
US High Yield	1.5	2.8	20.8	4.9	25
Europe High Yield	0.7	1.8	11.1	5.4	29
EM High Yield	1.8	1.0	19.0	8.3	36
NA Inv. Grade CDX	0.2	0.9	2.7	1.2	22
Europe iTraxx	0.0	0.1	1.3	1.0	10
NA High Yield CDX	0.6	4.4	13.2	5.2	30
EM CDX	0.4	1.0	6.5	0.7	30
Global Asset Backed	0.0	-0.3	3.1	3.1	17
Duration	-0.8	-2.3	-0.3	3.3	71

Commodities Spot Returns

	1 Mo.	3 Mo.	1 Yr.	3 Yr.	3-Yr. Percentile
Dow Jones–UBS	0.1%	3.3%	13.8%	-11.3%	7%
Brent Crude	-3.4	8.5	31.0	-28.8	4
Natural Gas	-15.4	-1.3	-4.3	-31.0	25
Industrial Metals	7.4	12.4	30.2	-2.8	50
Gold Spot	5.5	-5.2	8.3	-0.9	36
Agriculture	3.3	-2.0	6.0	-6.9	28

Attractiveness Equity Yield Attractive vs. Short Rates and Credit Neutral



As of January 31, 2017 Source: Bloomberg and AB



As of January 31, 2017 Source: AB



As of January 31, 2017 Source: AB

Opportunities in EM FX, Commodities factor Strategy Attractiveness											
		Facto	r Spread Qu	intile*	Top Ex	posure					
Asset	Strategy	Carry	Value	Mom.	Long	Short					
	Carry		1								
G10 FX	Value		1		USD, NZD,	CHF, GBP,					
	Momentum		3	4	NUK	JER					
EM FX	Carry	1	2								
	Value	3			INK, IDK,	NID, KKW,					
	Momentum	2		3	IVIAN	I EIN					
	Carry	1									
Fixed Income	Value		2		US, CA, NZ	UK, DE, CH					
	Momentum			4							
	Carry	1			C 0'l	Userfine Oil					
Commodity	Value				Gas Oil,	Heating Oil,					
,	Momentum			5	Gold	Sliver					
Faults Country	Carry	1									
Equity Country	Value		4		HK, SG	US, CA					
Selection	Momentum		1								

As of January 31, 2017

Shaded area indicates overweighed strategy.

*Only spreads with statistical significance are displayed; higher quintile indicates higher attractiveness.

Source: AB

Cross-Asset Correlation Correlations Across Equities, Bonds, Currencies Remain Elevated

Rates Driving Cross-Asset Correlations as Fiscal Policy Becomes the Central Controversy

Short-Term Cross-Asset Correlation

				G	ilobal A	sset Cla	ss			Eq	uity Reg	gion		S	overeig	n Debt	by Regi	on		c	urrenc	у	
Current Level		Vol. (%)	ACWI	Rates	REITS	IG Credit	HY Credit	Crude Oil	JP	υк	US	Asia- Pac.	EU ex UK	JP	υк	US	Asia- Pac.	EU ex UK	JPY	GBP	USD	AUD	EUR
Global Asset Class Equity Region	ACWI Rates REITS IG Credit HY Credit Crude Oil Japan UK US Asia-Pac. EU ex UK Japan	5.8 2.9 11.4 0.7 2.7 34.7 18.3 6.7 3.4 9.6 5.6 2.8	1.0 -0.2 0.2 0.4 0.5 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.1	1.0 0.4 -0.4 -0.3 -0.1 -0.3 0.2 -0.1 0.0 -0.2 -0.8	1.0 -0.2 -0.2 -0.1 -0.1 0.0 0.0 -0.3 0.0 -0.4	1.0 0.5 0.1 0.3 -0.2 -0.1 0.2 0.0 0.3	1.0 0.3 0.1 0.0 0.1 0.2 0.2 0.3	1.0 0.0 -0.1 -0.1 -0.2 0.0	1.0 0.4 0.6 0.5 0.4 0.1	1.0 0.0 -0.2 0.3 0.1	1.0 -0.5 0.1 0.2	1.0 -0.5 0.0	1.0 0.3	1.0									
Sovereign Debt by Region	UK US Asia-Pac. EU ex UK	4.8 2.2 4.4 2.5	-0.2 0.0 0.2 0.1	0.5 0.2 0.3 0.1	0.1 0.2 0.1 0.1	-0.1 -0.1 0.1 -0.1	-0.1 -0.4 0.4 0.3	0.2 0.2 0.1 0.2	-0.3 0.5 -0.6 -0.4	0.2 0.4 0.2 0.4	0.1 -0.4 0.3 0.3	-0.1 0.4 -0.4 -0.4	-0.1 -0.3 0.3 0.2	-0.3 -0.5 0.5 0.0	1.0 0.4 0.1 0.4	1.0 0.5 0.8	1.0 0.1	1.0					
Currency	JPY GBP USD AUD FLIR	9.6 8.8 6.1 6.5 5.2	-0.3 -0.1 0.2 0.0 -0.1	0.6 0.2 0.6 0.2 0.5	0.2 0.1 0.3 0.1 0.3	-0.3 0.1 0.1 0.0 0.0	-0.2 0.0 0.1 0.0 -0.1	-0.1 0.1 0.0 -0.1	-0.4 0.1 0.2 0.0 -0.1	0.2 0.6 0.1 0.1 0.1	0.1 0.0 0.0 -0.1 0.0	-0.1 0.0 0.0 0.0 0.0	-0.2 0.0 0.2 -0.3 -0.2	-0.4 0.1 0.5 -0.1 -0.4	0.6 0.0 0.6 0.1 0.4	-0.1 0.1 -0.1 0.1 0.2	0.2 0.1 0.0 0.1 -0.1	0.1 -0.2 0.0 0.0 -0.1	1.0 -0.1 -0.7 0.1 0.4	1.0 -0.3 0.0 0.1	1.0 0.2 0.9	1.0	10
Percentile vs. I	listory	5.2	0.1	0.5	0.5	0.0	0.11	0.0	0.11	0.1	0.0	0.0	0.2	0.1	0.1	0.2	0.11	0.1	0.1	0.1	0.5	0.11	
Global Asset Class	ACWI Rates REITs IG Credit HY Credit Crude Oil	6 16	3	88 96	2 1																		
Equity Region	Japan UK US Asia-Pac. EU ex UK	8 4 17 2		91 12	81 13	94 4 88	88		9 13	91 7	97	1											
Sovereign Debt by Region	Japan UK US Asia-Pac. EU ex UK		84	91 18 88	3 88 88	17	5 89	84	1 98 1 2	5 92 98	84 3 83 93	14 90 14 3	91 13 96	81		17							
Currency	JPY GBP USD AUD EUR	87 88 11 1		97 1 92 95	95 16 17 81	14	19	13	1 91	92 0		19	1	16 98 3	98 1 98		85 81	12	15 91				

As of January 31, 2017

Equity and sovereign-debt regions are relative to global. For percentile vs. history, only extreme values are shown. Source: Bloomberg and AB



Source: MSCI and AB

Through January 31, 2017 Source: AB

Growth Broadly Positive Economic Indicators and Surprises



As of January 31, 2017 Source: Bloomberg, OECD and AB



Through January 31, 2017 Source: Bloomberg and AB



Source: AB

Improving Business Sentiment, PMIs in DM

Economic Growth Indicators

		Leve	el	Change vs. Prior Month					
	US	Japan	Eurozone	US	Japan	Eurozone			
Consumer									
Unemployment (Percent)	4.8	3.1	9.6	0.1		-0.1			
Employment Surprise	-0.4	-0.7	0.3	-1.0	-0.7	-0.6			
Sentiment Surprise	0.1	0.7	0.2	-0.9	2.1	0.0			
Business									
Composite PMI	56.4	52.3	54.4	—	-0.5				
Manufacturing PMI	56.0	52.7	55.2	1.5	0.3	0.3			
Service PMI	56.5	51.9	53.7	-0.1	-0.4	—			
Output Surprise	0.6	-0.7	0.8	0.0	-0.4	0.3			
Sentiment Surprise	1.1	0.0	0.8	-0.2	0.1	1.3			

As of January 31, 2017

PMI: Purchasing Managers' Index Surprise levels expressed in z score (21-day rolling average) Source: Bloomberg, IHS Markit and AB



Through January 31, 2017 Source: Bloomberg and AB



Through January 31, 2017 Source: AB

Inflation Breakevens and CPI Up in Most Regions



As of January 31, 2017 Source: Haver Analytics and AB



As of January 31, 2017 Source: Haver Analytics and AB



As of January 31, 2017 Source: Haver Analytics and AB

Long-Term Inflation Expectations Continue to Rise Inflation Swap Forward 5y5y Rate





As of January 31, 2017 Source: Haver Analytics, OECD and AB

Through January 31, 2017 Source: Bloomberg and AB



As of January 31, 2017 Source: Haver Analytics and AB

Liquidity Credit Creation So Far Resilient, Despite Some Tightening in US



Through January 31, 2017

Source: Board of Governors of the Federal Reserve System; http://faculty.chicagobooth.edu/jing.wu/research/data/WX.html; and AB



Through December 31, 2016 Source: Capital Economics and AB



Through January 31, 2017 Source: Bloomberg and AB



Through January 31, 2017 Source: Capital Economics and AB

Demand for Credit Improving in Japan, Europe ex UK

Senior Loan Officer Surveys: Small and Medium-Size Enterprises

	Net Percent of Banks Reporting Stronger Demand for Credit in Next 3 Months													
	Germany	Italy	Japan	Spain	France	UK	US*							
Current	10	6	8	10	25	-29	2							
Prev. Quarter	3	-6	5	5	29	-28	-2							
1 Year Ago	13	0	3	16	20	-9	-4							
3 Years Ago	6	0	4	13	10	2	5							
10-Year Avg.	9	3	1	-1	-10	-2	-6							

As of January 31, 2017 *US figures for past three months

Source: Capital Economics and AB



Through January 31, 2017 Source: Bloomberg and AB

Equities—Expectations Revision Trends Continue to Improve from 1Q:16 Lows





Through January 31, 2017 Source: Thomson Reuters I/B/E/S and AB

Through January 31, 2017 Source: Thomson Reuters I/B/E/S and AB

Improving Revisions for Cyclicals and Industrials

I/B/E/S Cap-Weighted Earnings Revisions

	I/I	B/E/S Cap-Weigh	ted Earnings Rev	visions	Percentile vs. 10-Year History					
	Cyclicals	Defensives	Industrials	Technology	Cyclicals	Defensives	Industrials	Technology		
US	➡ 0.3%	➡ -1.0%	10.0%	4 0.9%	62%	42%	55%	55%		
EU & UK	1 2.2	♣ -0.7	1 6.0	➡ −1.4	86	55	86	46		
Japan	1 3.7	🖊 0.2	1 5.2	1 3.1	79	51	82	63		
Asia ex Japan	1.1	➡ -3.1	1 4 .1	1 3.7	64	18	79	67		
AU & NZ	★ -0.3	會 −0.5	40.2	NA	57	45	99	NA		
LatAm	1.8	1 1.3	➡ -14.2	➡ 0.0	85	3	10	27		
ACWI	1.3	₽ -1.2	1 3.4	➡ 1.6	76	38	73	62		

As of January 31, 2017. Arrow: improving or deteriorating three-month earnings revision (of more than 0.5) compared with the previous three months. Cyclicals: consumer cyclicals, financials, autos & housing; defensives: defense, consumer staples, utilities, healthcare, telecom; industrials: capital equipment, energy, commodities, transportation Source: Thomson Reuters I/B/E/S and AB

Consensus Earnings for 2017 Embed Expectations of Accelerating Nominal Growth...

Corporate Earnings by Region

		Earning	s Growt	h	Sales Growth					
	FY17E	FY1	6E	Realized	FY17E	FY1	6E	Realized		
	Current	Current	3-Mo. Prior	ттм	Current	Current	3-Mo. Prior	ттм		
Global	13.7%	3.0%	2.8%	-7.7%	6.9%	0.3%	0.4%	0.0%		
DM	13.3	0.8	0.7	-8.0	5.9	-0.1	0.1	-0.5		
US	11.2	0.9	0.8	-2.8	5.4	1.8	2.0	1.1		
Canada	24.8	-2.4	-1.9	-8.3	11.9	1.9	2.7	3.0		
UK	21.0	1.8	0.7	-38.6	10.6	1.1	0.8	-5.4		
EU ex UK	13.9	1.1	2.8	-9.7	5.8	-1.3	-0.9	-0.1		
Japan	13.1	3.7	0.4	-4.7	4.3	-3.3	-3.0	-4.1		
A ex J	14.3	-4.7	-5.2	-8.0	7.8	-5.5	-5.7	2.2		
EM	15.6	13.2	12.6	-6.8	10.7	2.0	1.8	3.1		

As of January 31, 2017 Source: Bloomberg, FactSet and AB

as Well as Margin Expansion Corporate Earnings by Sector											
		Earning	s Growth			Sales (Growth				
	FY17E	FY1	16E	Realized	FY17E	FY1	6E	Realize			
			3-Mo.				3-Mo.				
	Current	Current	Prior	TTM	Current	Current	Prior	TTM			
Financials	9.7%	1.0%	1.3%	-6.8%	—	_	—	—			
Cons. Disc.	13.9	7.8	8.5	3.7	5.6%	4.0%	3.9%	3.3%			
Technology	15.2	4.3	3.0	12.9	6.6	2.1	2.0	-21.6			
Industrials	10.9	8.8	10.4	-8.2	4.3	-0.2	0.3	-0.9			
Energy	82.0	-29.1	-29.0	-56.0	19.9	-9.6	-9.7	-16.4			
Materials	25.9	25.6	22.9	-23.5	8.2	-4.1	-3.9	-8.4			
Cons. Staples	11.3	4.6	5.0	-4.8	5.2	3.7	4.0	1.5			
Healthcare	6.8	6.5	6.8	0.7	5.2	7.7	7.8	4.8			
Telecom	6.9	3.1	5.0	-4.7	2.6	4.0	3.9	2.7			
Utilities	-1.8	-0.8	-4.6	14.8	3.3	-7.1	-6.8	3.9			
Ex Energy	11.2	5.2	5.2	-3.8	5.3	1.7	1.9	2.5			
All Sectors	13.7	3.0	2.8	-7.7	6.9	0.3	0.4	0.0			

As of January 31, 2017 Source: Bloomberg, FactSet and AB

Equities—Regions Cross-Region Value Spreads Remain Narrow on Average

However, North American Equities at Historically High Premium to Peers

DuPont Analysis, ex Financials

					Asia		Europe		North	Latin
		ACWI	Developed	Emerging	ex Japan	Japan	ex UK	UK	America	America
ROE	Current	11.7%	11.8%	10.6%	10.6%	8.8%	10.6%	9.2%	14.5%	6.6%
	12-Mo. Prior	12.6%	12.7%	10.8%	11.0%	8.9%	11.0%	14.3%	15.3%	6.7%
	% vs. History	24%	27%	18%	20%	69%	21%	1%	42%	4%
NI/Sales	Current	7.0%	6.6%	7.4%	7.4%	4.6%	6.1%	5.0%	8.2%	4.7%
	12-Mo. Prior	7.2%	6.8%	7.0%	7.4%	4.8%	6.2%	7.0%	8.0%	4.4%
	% vs. History	77%	77%	29%	50%	97%	75%	17%	82%	6%
Sales/Assets	Current	0.52	0.56	0.42	0.41	0.72	0.48	0.49	0.58	0.35
	12-Mo. Prior	0.57	0.63	0.43	0.43	0.80	0.53	0.61	0.65	0.36
	% vs. History	0%	0%	9%	0%	11%	2%	1%	0%	37%
Assets/Equity	Current	3.2	3.2	3.5	3.5	2.6	3.6	3.7	3.1	4.0
	12-Mo. Prior	3.1	3.0	3.5	3.5	2.3	3.4	3.3	2.9	4.3
	% vs. History	64%	58%	96%	98%	19%	24%	100%	67%	91%
P/FE	Current	17.0	17.7	14.4	15.5	15.9	15.8	15.3	18.8	15.7
	12-Mo. Prior	16.1	16.5	14.0	14.7	14.1	15.6	17.5	16.9	16.7
	% vs. History	63%	63%	66%	70%	22%	63%	65%	77%	89%

As of January 31, 2017 Source: AB

Limited Opportunities for Cross-Sectional Bets in DM

Relative Valuation of Most Expensive vs. Most Attractively Valued DM Countries



Through January 31, 2017 Source: AB



January 1, 1988–January 31, 2017

Current level measures the percentage of crowded companies as a multiple of random chance for regions. Source: AB

Attractive EM Spread on Forward-Looking Basis

Relative Valuation of Most Expensive vs. Most Attractively Valued EM Countries



Through January 31, 2017 Source: AB



As of January 31, 2017 Source: Bloomberg and AB

Equities—Sectors Wide ROE and Valuation Dispersion Favor Sector Bets

Beneficiaries of Low Energy Prices Improved Margins over Last 12 Months

DuPont Analysis by Sector

		Autos &	Capital Equipment	Commodities	Consumer Cyclicals	Consumer	Defense	Fnerav	Healthcare	Technology	Telecom	Transportation	litilitios
POF	Curront	12.1%	10.3%	8.6%	1/ 6%	16.4%	20.7%	2 10/	15.2%	14 7%	11 7%	12.0%	0.8%
NOL	12 Mo Drior	12.1/0	10.3 /0	0.070	14.070	10.4 /0	20.7 /0	2.1/0	12.3/0	14.7 /0	10.20/	15.0 /0	10 20/
	12-IVIO. FIIUI	12.370	1.40/	9.770	14.570	13.0%	22.0%	0.9%	13.770	13.9%	10.5%	13.4%	10.570
	% VS. HISLOTY	00%	14%	28%	90%	33%0	95%	0%	1/%	09%	18%	8/%	10%
NI/Sales	Current	6.1%	5.2%	5.2%	5.7%	9.1%	6.5%	1.7%	10.7%	10.3%	8.0%	7.5%	8.0%
	12-Mo. Prior	6.0%	5.2%	5.7%	5.3%	9.0%	7.1%	4.4%	9.1%	10.7%	7.3%	8.2%	8.2%
	% vs. History	99%	84%	64%	100%	90%	92%	1%	85%	97%	39%	97%	89%
Sales/Assets	Current	0.47	0.46	0.55	0.80	0.63	0.70	0.41	0.57	0.62	0.43	0.49	0.29
	12-Mo. Prior	0.52	0.48	0.57	0.90	0.69	0.73	0.53	0.64	0.68	0.45	0.53	0.31
	% vs. History	2%	1%	1%	1%	0%	32%	0%	1%	0%	10%	1%	0%
Assets/Equity	Current	4.2	4.3	3.0	3.2	2.8	4.5	3.1	2.5	2.3	3.3	3.6	4.2
	12-Mo. Prior	3.9	4.3	3.0	3.0	2.6	4.2	3.0	2.4	2.2	3.1	3.5	4.0
	% vs. History	42%	56%	50%	95%	65%	64%	96%	92%	54%	90%	26%	87%
P/FE	Current	12.7	16.4	15.2	19.1	20.5	18.1	17.0	16.8	17.8	15.3	15.1	15.4
	12-Mo. Prior	10.4	14.4	15.1	17.8	21.1	15.4	20.0	16.2	15.7	15.1	11.9	14.5
	% vs. History	36%	54%	58%	56%	87%	90%	77%	38%	43%	51%	32%	76%

As of January 31, 2017 Source: AB

Decline in Valuation Spreads Across Sectors Relative Valuation of Most Expensive vs. Most Attractively Valued Sectors



Through January 31, 2017 Source: AB



January 1, 1988–January 31, 2017

Current level measures the percentage of crowded companies as a multiple of random chance for sectors. Source: AB

Financials, Transportation, Tech Attractively Valued

Current Relative Valuation vs. History by Sector

	Price to Norma	lized Earnings	Price to Forward	d Earnings
	Rel. to Global	Percentile	Rel. to Global	Percentile
Healthcare	1.4	57%	1.0	16%
Technology	1.2	9%	1.1	16%
Financials	0.7	33%	0.8	18%
Transportation	1.1	39%	1.0	24%
Autos & Housing	0.8	28%	0.8	28%
Consumer Cyclicals	1.3	78%	1.2	34%
Telecom	0.9	37%	0.9	40%
Real Estate	1.2	59%	1.2	44%
Capital Equipment	1.1	55%	1.0	50%
Commodities	1.1	57%	1.0	66%
Utilities	1.0	82%	1.0	66%
Consumer Staples	1.4	69%	1.2	80%
Defense	1.2	84%	1.1	88%
Energy	0.8	18%	1.2	95%
Global	17.0	43%	16.1	61%

As of January 31, 2017 Source: AB



As of January 31, 2017 Source: Bloomberg and AB

Equities—Factor View Value Bets Are Attractive

Most of Risk Is in Value Strategies

Equity Factor Allocation

_		Equity Fa	ctor Strat	tegy Risk A	llocation		Change from Last Month					
	US	EU ex UK	Japan	Oceania	Asia ex Japan	Global	US	EU ex UK	Japan	Oceania	Asia ex Japan	Global
Capital Use	20%	0%	0%	0%	0%	15%	-10%	-10%	—	-10%	—	—
Current Value	15	10	0	25	10	15	-15	10	—	10	10%	—
Deep Value	25	30	5	60	15	25	10	-40	_	-10	-25	_
Momentum	0	50	65	0	20	20	—	45	65%	—	10	20%
Profitability	20	0	0	0	50	15	_	-15	-30	_	_	_
Quality	15	5	25	15	0	15	—	—	-40	10	—	—

As of January 31, 2017

Numbers may not sum due to rounding.

Source: AB

Quality Continued to Underperform

Equity Risk Premium Returns

	1 Mo.	3 Mos.	12 Mos.	36 Mos.	36-Mo. Percentile vs. History
Capital Use	0.5%	0.1%	0.3%	-0.9%	2%
Current Value	0.2	-1.5	1.9	0.0	1
Deep Value	-0.6	1.1	-0.1	-1.5	34
Momentum	1.6	2.5	4.5	3.7	50
Profitability	0.7	-1.3	-2.5	1.6	26
Quality	-0.8	-1.9	2.7	-1.1	3
Beta	0.9	4.8	18.4	-0.9	48
Risk	1.5	-4.3	-2.4	-6.3	0
Size	0.1	2.2	6.2	2.3	42

As of January 31, 2017 Source: AB



As of January 31, 2017



Provocative Valuation Spreads ex US

Factor Valuation (100 = Attractive; 0 = Unattractive)

					Asia ex		
	US	Canada	UK	EU ex UK	Japan	Japan	Oceania
Capital Use	—	—	—	—	10%	—	
Current Value	—	17%	—	—	—	84%	
Deep Value	17%	2	12%	—	—	—	
Momentum	98	84	—	100%	—	—	99%
Profitability	15	—	—	—	14	—	
Quality	6	95	—	20	83	15	
Beta	—	—	_	—	—	93	
Risk	86	19	—	—	—		_
Size	_	—	2	—	—	4	2

As of January 31, 2017

Based on sector-neutral, long/short strategies Source: AB



As of January 31, 2017

Global, daily data, six-month window. Global long/short factors: comp. value, 12-month price momentum, quality, long-term growth. We use rolling correlations of absolute returns of long/short factors and correlations of (signed) returns of stocks. Source: FactSet, MSCI, Thomson Reuters I/B/E/S and AB

Fixed Income and Currencies (1) Yield Curves Have Continued to Steepen, Volatility Rising



As of January 31, 2017 Source: AB



As of January 31, 2017 Source: AB



As of January 31, 20 Source: AB



As of January 31, 2017 Source: AB



As of January 31, 2017

*Regional 10-year bonds relative to global universe Source: AB



As of January 31, 2017

*Expressed as z score vs. history Source: AB

Fixed Income and Currencies (2) Evolving Policy Outlook Translating into Elevated FX Volatility



As of January 31, 2017 Source: AB



As of January 31, 2017 Source: Bloomberg and AB



As of January 31, 2017 Source: AB



As of January 31, 2017 Source: Bloomberg and AB

Commodities Crude, Gold Markets Suggestive of Reflation



As of January 31, 2017 *London Metal Exchange Source: AB

As of January 31, 2017 Source: Bloomberg and AB

Glossary

PERFORMANCE (Page 9)

Equity Returns by Region: Total returns, in local-currency terms, of countries and regions from the MSCI family of global indices. Three-year percentiles are compared with historical returns since January 1970 or the earliest available returns for developed markets, and since January 2001 for emerging markets (EM) and emerging-market subregions.

Equity Global Sector Returns: Various sector returns, in local-currency terms, of the MSCI All-Country World Index. Three-year percentiles are compared with historical returns since January 1999.

Bond Returns by Region: Various country and regional returns are derived from the Bloomberg Barclays Global Treasury Bond Index. Regional treasury returns are weighted using the country weights from the Bloomberg Barclays Global Aggregate Bond Index. Three-year percentiles are compared with historical regional bond returns since January 1970 and with historical global treasury returns since September 2000.

Bond Strategy Returns: Global investment-grade, global high-yield, EM investment-grade, EM high-yield and global asset-backed returns are from the Bloomberg Barclays Global Aggregate Bond Index. CDX returns are calculated using IHS Markit 5-year Total Return Indices. Duration returns are calculated by combining a long position in the Bloomberg Barclays Global Treasury 7–10 Year Index (Hedged) and a short position in the Bloomberg Barclays Global Treasury 1–3 Year Index (Hedged).

Spot Currency Returns: Spot returns versus the US dollar for all currencies except the US dollar, based on data from Bloomberg. The US dollar is measured as a spot return versus a basket of other countries' currencies weighted by gross domestic product (GDP), based on data from Bloomberg. Three-year percentiles are compared with historical returns since January 1971 or the earliest available returns.

Commodities Spot Returns: Commodity returns based on the Bloomberg Commodity Index and subcomponents. Three-year percentiles are compared with historical returns since January 1991 for all returns except gold, which is compared with historical returns since January 1970.

ATTRACTIVENESS (Page 10)

Asset-Class Yield: This display shows the yields of each asset class and its current percentile rankings versus history.

Asset-Class Attractiveness: This display shows the attractiveness of each asset class based on the team's proprietary return model. Note: (1) DM equity, EM equity and DM bond regions are relative to their DM aggregates. (2) Global and regional credit are relative to their duration-equivalent Treasuries. (3) EU ex UK Bonds are weighted by the EU index weight, but the underlying asset is DEU bonds after 1998. (4) Currencies are versus USD, except for USD, which is versus the GDP-weighted basket.

Factor Strategy Performance: Risk premium returns are calculated by constructing long/short strategies that embody each specific premium. Carry strategies are based on the interest-rate differential for currencies, slope of the yield curve for fixed income and roll of the futures curve for commodities. Value strategies are based on purchasing power parity (PPP) divided by the FX rate for currencies and level of yield for fixed income. Momentum strategies are based on past performance. Fixed income and DM currencies are selected from US, Canada, UK, Germany, Switzerland, Norway, Sweden, Japan, Australia and New Zealand. EM currencies are selected from a basket in Asia, EMEA and Latin America. Commodities are selected from a basket in petroleum, industrial metals, precious metals, grains, soft commodities and livestock.

Factor Strategy Attractiveness: This display shows the quintile of factor spreads for each strategy, the current top exposure recommended by a proprietary optimization model and the currently overweighted strategies. A higher quintile is associated with higher attractiveness for a strategy according to a back-tested Sharpe Ratio.

CROSS-ASSET CORRELATION (Page 11)

Cross-Asset Correlation 1: This display looks at the current levels of volatilities and correlations both between and within major global asset classes, as well as their percentile rank in history. Risk levels are calculated using daily returns over a 21-day period.

Cross-Asset Correlation 2: This display looks at current and historical cross-asset correlations to global equity. Correlations are calculated over an intermediate-term decay with a sixmonth half-life. "Oil" is represented by a composite of WTI crude, Brent crude, gasoline and heating oil prices.

Cross-Asset Correlation 3: This display looks at the impact of a common factor on equity, bond and commodity returns based on principal component analysis. The smaller the percentile number, the less the impact of a single common factor on within-asset-class returns relative to history, and the greater the chance that cross-sectional selection can be rewarded.

GROWTH (Page 12)

Growth 1: This display assesses the stage of business cycle in major regions based on the de-trended growth rate, and its change, of economic indicators. OECD Composite Leading Indicators are used for Australia, Japan and Canada. PMI indicators are used for US, EU ex UK and China.

Growth 2: This display assesses the level and change in consumer and business indicators and surprise data. The surprise data are the proprietary composites of periodic employment, output, consumption and business data releases, calculated as the degree of deviation from the average.

Growth 3 and 4: By measuring unemployment and the Purchasing Managers' Index of major economies, these displays identify those regions with strong and improving growth and those with weak and deteriorating growth.

Growth 5 and 6: These displays look at the level and change in the proprietary composites of periodic consumption and business data releases in major economies, calculated as the degree of deviation from the average.

INFLATION (Page 13)

Inflation 1: This display compares the Consumer Price Index (CPI) and core CPI for select developed economies to partially capture the effects of commodities on inflation.

Inflation 2: This display shows the long-term evolution of the inflation swap forward 5y5y rate for major economies to gauge inflation expectations.

Inflation 3: This display captures three dimensions of inflation and identifies regional outliers. The three measures are actual inflation (the year-over-year percent change in the CPI on the horizontal axis), the market's view of future inflation (breakevens on the vertical axis) and how inflation expectations have changed recently (indicated by "up" or "down" next to the country/region name). Break-even implied inflation is calculated as the difference between five-year nominal and real yields.

Inflation 4: This display examines trends in unit labor costs by region. "Change in unit labor cost" measures the average cost of labor per unit of output and is calculated as the ratio of total labor cost to real output year over year. "Change in inflation" is the six-month change in the year-over-year unit labor cost.

Inflation 5: This display compares the momentum and trend of housing price inflation in select economies, using the 12-month change in price and annualized growth rate since December 2007.

Inflation 6: This display looks at the potential for a buildup in inflation as a consequence of rising import prices in select economies.

LIQUIDITY (Page 14)

Liquidity 1: Unlike the observed short-term interest rate, the shadow rate is not bounded below by 0 percent and is assumed to be a linear function of factors based on implied future one-month forward rates. Whenever the Wu-Xia shadow rate is above 1/4 percent, it is exactly equal to the model implied one-month interest rate by construction.

Liquidity 2 and 3: These displays show year-over-year growth in private lending and lending to nonfinancial corporations since 2008 for global regions.

Liquidity 4: This display shows credit conditions for small and medium-size enterprises based on senior loan officer surveys.

Liquidity 5: US 10-year interest-rate swap spread measures the difference between the rate on the fixed leg of the 10-year interest-rate swap and the corresponding Treasury yield.

Liquidity 6: Negative basis swap spreads indicate the absence of arbitrageurs to meet heightened demand for US dollar liquidity in global funding markets.

EQUITIES—EXPECTATIONS (Page 15)

Equities—Expectations 1 and 2: These displays show market-capitalization-weighted earnings revisions for DM and EM, including or excluding the energy sector, to gauge investor sentiment over time.

Equities—Expectations 3: This display shows market-capitalization-weighted earnings revisions for equity sectors across different regions to gauge the recent change in investor sentiment.

Equities—Expectations 4 and 5: These displays identify the equity regions and sectors with strong and improving growth and those with weak and deteriorating growth in expected sales and earnings. The displays also show the trailing 12-month realized growth for each measure.

EQUITIES—REGIONS (Page 16)

Equities—Regions 1: This display applies the DuPont Method to attribute the level and change of ROE into net margin, asset turnover and leverage for global regions.

Equities—Regions 2 and 3: These displays show the valuation spread between the least and most attractively valued five countries within DM and EM over time. The spreads are calculated for normalized earnings to price and forward earnings to price (adjusted for cash), which are normalized by DM and EM averages respectively. Normalized earnings are calculated from the median operating margins (operating ROE for financials) of the trailing normalization period that was applied, respectively, to an estimate of trend-line sales (book value) two years out. Normalization period: three years for consumer cyclicals, healthcare products; five years for capital equipment, consumer staples, utilities, autos & housing, energy, technology; seven years for commodities, telecommunications; nine years for financials, defense, healthcare services.

Equities—Regions 4:This display shows the level of crowding in equities by regions. Crowding is based on proprietary models that look at metrics such as high analyst ratings, elevated

valuations, strong recent performance and large holdings of institutional investors. Each measure shows the current percentile versus history during the past 10 years.

Equities—Regions 5: This display shows one-month realized volatility and its difference from implied volatility for various regions. Percentile is calculated since 2001. Implied volatility is calculated using a volatility surface with a maturity of one month and a delta of 0.5.

EQUITIES—SECTORS (Page 17)

Equities—Sectors 1: This display applies the DuPont Method to attribute the level and change of ROE into net margin, asset turnover and leverage for global nonfinancial sectors.

Equities—Sectors 2: This display shows the valuation spread between the most expensive and most attractively valued three sectors over time, using both normalized P/E and forward P/E. Normalized earnings are calculated from the median operating margins (operating ROE for financials) of the trailing normalization period that was applied, respectively, to an estimate of trend-line sales (book value) two years out. Normalization period: three years for consumer cyclicals, healthcare products; five years for capital equipment, consumer staples, utilities, autos & housing, energy, technology; seven years for commodities, telecommunications; nine years for financials, defense, health-care services.

Equities—Sectors 3: This display highlights the attractiveness of global sectors by looking at two different measures of equity valuations relative to their global levels—normalized P/E and forward P/E. The display also shows the current percentile versus history since 1970 for each measure.

Equities—Sectors 4: This display shows the level of crowding in equities by sector. Crowding is based on proprietary models that look at metrics such as high analyst ratings, elevated valuations, strong recent performance and large holdings of institutional investors. Each measure shows the current percentile versus history during the last 10 years.

Equities—Sectors 5: This display shows one-month realized volatility and its difference from implied volatility for various sectors since 2001. Implied volatility is calculated using a volatility surface with a maturity of one month and a delta of 0.5. Sectors are based on S&P 500 Index components.

EQUITIES—FACTOR VIEW (Page 18)

Equity Factor Allocation: This display shows each factor's current share of each region's risk budget in the long-only portfolio as well as its change from last month. Allocation decision is based on an assessment of its business cycle, recent efficacy, valuation spread and crowding.

Equity Risk Premium Returns: Risk premium returns are calculated by applying a quantitative screen to a global universe of large-cap stocks to assemble a group of stocks that embody each specific premium. Three-year percentiles are compared with historical returns since January 2003.

Factor Valuation: Valuation spreads are calculated for factors in each region using the 10-year percentile of book-to-price ratio of each factor portfolio.

Stock Correlation and Volatility: Stock pairwise correlation and standard deviation are calculated on the MSCI ACWI universe with a look-back window of 180 days. A smaller gap between the two indicates that correlation is higher than the level suggested by volatility.

Factor Correlation vs. Stock Correlation: Average pairwise factor correlation is calculated on absolute returns of global long/short factors including value, 12-month price momentum, quality and long-term growth with a look-back window of 180 days.

FIXED INCOME AND CURRENCIES (Pages 19 and 20)

Fixed Income and Currencies 1: This display provides a perspective on current and historical risk levels by looking at equity and fixed-income volatility. Volatilities are calculated over an intermediate-term decay with a six-month half-life.

Fixed Income and Currencies 2: This display looks at the market's expected forward 12-month change in central bank policy rate that is implied in the futures and options market, in the current and previous month.

Fixed Income and Currencies 3: This display looks at the market's current and recent expectations of the fed funds futures rate.

Fixed Income and Currencies 4: This display looks at the level and slope of real bond yields as a valuation measure for inflation-indexed bonds across regions. "Real yields" are the current yields for 10-year inflation-indexed bonds (using nine-year when 10-year wasn't available), and the "real-yield slope" is the difference in real yields between the 10-year and three-month bonds.

Fixed Income and Currencies 5: This display shows the current and recent net speculative positions of various maturities in the US term structure, as the percentage of total interest based on the most recent CFTC release.

Fixed Income and Currencies 6: This display establishes the relative attractiveness of credit by looking at current credit

spreads by region and the recent changes in those credit spreads. "Regional credit spread" is expressed as the degree of deviation from the historical average. "Spread momentum" is the composite degree of deviation from the historical average of the change in spreads over the intermediate term.

Fixed Income and Currencies 7: This display looks at the market cycles implied in the fixed-income market. A flatter yield-curve slope and higher spread relative to history indicates risk-off in the market.

Fixed Income and Currencies 8: This display breaks down the attractiveness of various currencies into fundamental valuations and other factors. Both measures are shown as the degree of deviation from the historical average versus USD. "Valuation" is a proprietary composite based on interest-rate differentials and PPP divided by FX rate. "Other factors" is a proprietary composite based on growth, economic stimulus, credit risk and sentiment.

Fixed Income and Currencies 9: This display shows the current and recent net speculative positions of major currencies in percentage of total interest based on the most recent CFTC release.

Fixed Income and Currencies 10: This display shows one-month realized volatility and its difference from implied volatility for various currencies since 2001. Implied volatility is calculated using a volatility surface with a maturity of one month and a delta of 0.5.

COMMODITIES (Page 21)

Commodities 1–3: These displays look at the market's current and recent expectations of the future prices of WTI crude, gold and LME copper.

Commodities 4: This display shows the current and recent net speculative positions of crude oil, gold and copper in percentage of total interest based on the most recent CFTC release.

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