

## Benchmark Indices/POINT®

# Barclays Fixed Income Index Return Attribution – July 2016

This periodical is designed to provide insight into the drivers of returns for the Barclays benchmark fixed income indices. Using the *Barclays POINT® Hybrid Performance Attribution (HPA) model*, which blends traditional sector-based allocations with factor-based attribution, total returns of flagship Barclays benchmark indices are broken down into curve movement across six key rate points, curve carry, spread change, spread carry, volatility, and FX.

This publication is designed to complement existing index research used by asset managers to understand the return and rebalancing dynamics of widely used Barclays fixed income benchmarks.

FIGURE 1  
Summary return attribution of flagship Barclays indices

		July 2016							2016 YTD						
Index/Base Currency		Total Return		Local Return			FX Return		Total Return		Local Return			FX Return	
		Hed	Unh	Curv	Sprd	Vol/ Other	Hed	Unh	Hed	Unh	Curv	Sprd	Vol/ Other	Hed	Unh
Global Aggregate	USD	0.60	0.75	0.16	0.41	0.00	0.04	0.20	6.50	9.78	5.80	0.47	-0.01	0.25	3.53
Global Treasury	USD	0.29	0.48	0.07	0.18	0.00	0.05	0.23	6.98	12.16	6.68	-0.04	0.03	0.32	5.50
Global High Yield	USD	2.48	2.55	0.14	2.34	-0.02	0.02	0.09	11.47	11.50	4.09	7.23	-0.02	0.17	0.20
US Aggregate	USD	n/a	0.63	0.34	0.30	-0.01	n/a	n/a	n/a	5.98	5.34	0.70	-0.07	n/a	n/a
US Universal	USD	n/a	0.82	0.32	0.52	-0.01	n/a	n/a	n/a	6.55	5.23	1.39	-0.07	n/a	n/a
US Treasury	USD	n/a	0.41	0.42	-0.01	-0.01	n/a	n/a	n/a	5.79	5.83	-0.01	-0.03	n/a	n/a
US Gov/Credit	USD	n/a	0.80	0.45	0.36	-0.01	n/a	n/a	n/a	7.08	6.22	0.91	-0.05	n/a	n/a
US Int Gov/Cred	USD	n/a	0.28	0.07	0.23	-0.01	n/a	n/a	n/a	4.36	3.82	0.58	-0.04	n/a	n/a
US HY	USD	n/a	2.70	0.13	2.59	-0.01	n/a	n/a	n/a	12.01	4.31	7.69	0.01	n/a	n/a
US HY 2% Cap	USD	n/a	2.70	0.13	2.59	-0.01	n/a	n/a	n/a	12.01	4.31	7.69	0.01	n/a	n/a
Euro Aggregate	EUR	n/a	0.95	0.12	0.84	-0.01	n/a	n/a	n/a	5.85	5.49	0.33	0.03	n/a	n/a
Euro Treasury	EUR	n/a	0.82	0.15	0.68	-0.01	n/a	n/a	n/a	6.54	6.69	-0.17	0.02	n/a	n/a
Euro Corporate	EUR	n/a	1.68	0.07	1.62	-0.01	n/a	n/a	n/a	5.82	3.50	2.25	0.07	n/a	n/a
Euro HY	EUR	n/a	2.22	0.01	2.23	-0.02	n/a	n/a	n/a	5.95	2.06	3.65	0.24	n/a	n/a
Sterling Aggregate	GBP	n/a	2.70	1.93	0.77	0.00	n/a	n/a	n/a	13.78	13.14	0.62	0.03	n/a	n/a
Asia Pac Aggregate	JPY	-0.63	-0.33	-0.61	0.01	0.00	-0.03	0.26	5.43	3.71	5.63	0.00	0.07	-0.28	-2.00
Japanese Aggregate	JPY	n/a	-0.84	-0.85	0.01	0.00	n/a	n/a	n/a	5.73	5.67	-0.02	0.08	n/a	n/a
Australian Aggregate	AUD	n/a	0.76	0.73	0.02	0.00	n/a	n/a	n/a	6.08	5.82	0.22	0.04	n/a	n/a
EM USD Aggregate	USD	n/a	1.52	0.32	1.23	-0.03	n/a	n/a	n/a	11.06	5.76	5.48	-0.19	n/a	n/a
EM USD Agg 10% Cap	USD	n/a	1.53	0.33	1.24	-0.03	n/a	n/a	n/a	11.32	5.83	5.69	-0.20	n/a	n/a
EM Loc Cur Govt	USD	0.62	1.58	0.88	0.02	0.02	-0.30	0.66	5.81	12.77	7.78	-0.02	-0.05	-1.90	5.06
EM Loc Cur Govt - 10%	USD	0.64	1.09	0.94	0.01	0.03	-0.35	0.10	6.04	13.19	8.38	-0.05	-0.08	-2.21	4.94

Source: Barclays POINT®

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## Overview

This publication provides a more granular return attribution for Barclays' indices<sup>1</sup> that matches the type of modeled return splits (curve change, curve carry, spread change, spread carry, volatility return, and FX return) available in the POINT® Hybrid Performance Attribution (HPA) Model. In addition to index return attribution, this report includes supplemental index statistics and historical returns and performance data for the broader fixed income markets. Each publication will be structured to include:

- **Return attribution** for the most widely used Barclays fixed income indices grouped regionally as Global, US, Euro, Sterling, Asia-Pacific, and Emerging Markets. For monthly reports, return attribution will be provided for the previous month-end and on a year-to-date basis. At the end of each quarter, attribution results may also be provided for the previous quarter.
- **Historical monthly total return analysis** comparing the most recent monthly return with those for trailing 3-, 5-, and 10-year horizons. Comparative statistics provided over each horizon include rank, number of months positive/negative, average monthly total return, monthly standard deviation, monthly percentile return distributions, Sharpe ratio, and maximum drawdown.
- **Yield curve** tables detailing month- and year-to-date yield curve shifts and the reshaping of the largest currencies represented in the Global Aggregate Index (US, Bund, Gilt, JGB).
- **Spread change** tables charting the movements of investment grade and high yield spreads in the US, euro, and sterling corporate bond markets. Historical spread changes are shown at the index level and by credit quality.
- **FX change** tables detailing FX returns (hedged and unhedged) by base reporting currency for multi-currency benchmark indices. A matrix of spot FX rate changes for 11 currencies (in percentage) over the past month- and year-to-date is used to measure the FX return of different benchmark indices based on various reporting currency scenarios.

## Other Useful Index Research Publications

In addition to this publication, Barclays publishes several other monthly index reports that provide insight into the performance of the fixed income market. This attribution report is designed to complement the following monthly publications:

- **Global Family of Indices:** An extensive report that includes total return and statistics for flagship Barclays indices and sub-indices by sector, maturity, and quality.
- **Linker Index Monthly:** A performance analysis of the global inflation-linked markets, including attribution and commentary on the linker markets of countries tracked by the World Government Inflation Linked Bond (WGILB) and Emerging Markets Government Bond (EMGILB) Indices.
- **Benchmark Index Duration Extension & Rebalancing Forecast:** Released a few days ahead of month-end, this publication provides a projection of the size of the change in duration that will occur when index membership is reset at month-end. Duration extension is broken down into contributions from new issues, coupon payments, and issues exiting the index.
- **MBS Index Monthly:** Published by the Barclays mortgage strategy and portfolio modeling teams, this report provides detailed commentary and attribution for the US MBS Fixed-Rate and Hybrid ARM Indices. Attribution factors include carry, gamma, implied volatility, mortgage basis, and spread.

<sup>1</sup> This publication covers fixed-rate nominal bond indices. Return attribution for inflation-linked indices are available in the Linker Index Monthly.

### Subscribing to Barclays Research on Barclays Live

Index users can subscribe to receive the above monthly publications automatically via the publications portal on Barclays Live. The most direct way to subscribe is to type keyword **IndexPubs** into the search box at the top of the Barclays Live browser. The portal can also be accessed by clicking Indices in the top menu bar and selecting Benchmark Indices under the Publications heading.

On the Benchmark Indices publication page, users will need to scroll down to the publications tree and click the **Turn Subscriptions On** link in the upper right corner. Checkboxes next to each publication type will then appear and users can check the publications to which they would like to subscribe. To finalize, users will click **Update Subscriptions** in the upper right-hand corner.

## RETURN ATTRIBUTION

### POINT® Hybrid Performance Attribution (HPA) Model

The *Hybrid Performance Attribution (HPA) Model*, available through Barclays POINT® portfolio management platform, is a multi-currency, multi-asset class attribution model with daily outperformance calculation and compounding functionality. The HPA model covers the majority of asset classes including fixed income and equity instruments, derivatives (interest rate, currency, credit, and equity), ETFs, and fund of funds. By blending traditional sector and factor-based allocation methodology, the HPA model provides the flexibility to replicate the management structure of most portfolios.

#### Fixed Income Components of POINT® HPA Return Attribution<sup>2</sup>

- **Total return:** Hedged, unhedged, and local returns are shown here. Hedged return is 100% hedged back to the base currency of the index, using one-month synthetic currency forwards at the beginning of each month according to index methodology.<sup>3</sup>
- **Yield curve return:** **Yield curve carry** is calculated using a curve-matched portfolio of hypothetical par bonds to measure carry exactly on a daily basis. **Yield curve change return** is measured daily by shifting the yield curve back to one day prior, while keeping all other pricing parameters constant. This change return is then further decomposed using each of the published index key rates and corresponding yield change. Any residual return not captured by the key rate analysis, such as Convexity Effect, is reported under the Convexity category. Within POINT®, further flexibility is offered to calculate outperformance due to parallel shift and reshaping against government, swap, or tax-exempt curves to match specific investment management styles.
- **Spread return:** Utilizing analytic inputs from the Barclays Indices and POINT® (OAS, OASD, OASC), we are able to calculate return due to movements in spreads during a particular period. These components include **spread carry**, or time elapsed multiplied by spread level, and **spread change** (consisting of spread duration effect and spread convexity effect).
- **Volatility return:** The sensitivity of each position in the universe is measured by vega and against movements in the volatility surface. Underlying factors include volatility decay, parallel change, and reshaping.
- **Other:** Returns specific to certain asset classes such as inflation-linked (accretion) and securitized (prepayment returns) are captured under this category. Any return not explained by all factors above is also shown here.
- **FX return:** Return component captures any return in excess of pure local market return. POINT® will further decompose this return into spot, funding and cross factors, and includes all return from FX hedges.

<sup>2</sup> Although only fixed income is discussed here, equity and convertible instruments are fully supported.

<sup>3</sup> For additional details on Barclays currency hedging and currency return calculations, see [Barclays Benchmark Index Methodology](#).

## GLOBAL AND US INDEX RETURN ATTRIBUTION – JULY 2016

FIGURE 2

Family Index			Base Curr		Total Return		Local Return Splits													FX Return						
					Hedged/ Unhedged		Total	Curve Return										Spread Return			Total	Hedged/ Unhedged				
					Hed	Unh		Local Return	Total Curve	Curve Carry	Curve Chg	Curve Change by Key Rate								Total Sprd		Sprd Carry	Sprd Chg	Vol / Other	Hed	Unh
												6 mo	2 yr	5+7 yr <sup>4</sup>	10 yr	20 yr	30 yr	Conv								
Global	Global Aggregate	USD	0.60	0.75	0.56	0.16	0.07	0.09	0.00	-0.03	-0.01	0.05	0.02	0.06	0.00	0.41	0.04	0.37	0.00	0.04	0.20					
	Global Agg GDP	USD	0.73	0.98	0.71	0.26	0.09	0.17	0.00	-0.02	-0.01	0.06	0.06	0.08	0.00	0.45	0.05	0.40	-0.01	0.02	0.27					
	Global Treasury	USD	0.29	0.48	0.25	0.07	0.06	0.01	0.00	-0.02	-0.02	0.04	-0.02	0.05	-0.01	0.18	0.01	0.17	0.00	0.05	0.23					
	Global Treasury GDP	USD	0.42	0.55	0.44	0.30	0.13	0.18	0.00	-0.03	-0.02	0.05	0.06	0.11	0.00	0.14	0.01	0.13	0.00	-0.02	0.10					
	Global Treasury FSW	USD	0.44	0.77	0.40	0.20	0.07	0.14	0.00	-0.02	0.00	0.06	0.03	0.08	0.00	0.20	0.01	0.19	0.00	0.04	0.37					
	Global Agg Govt-Rel	USD	0.81	1.04	0.77	0.24	0.06	0.18	0.00	-0.03	0.00	0.06	0.07	0.06	0.01	0.53	0.06	0.47	-0.01	0.04	0.27					
	Global Agg Corporates	USD	1.63	1.72	1.60	0.44	0.10	0.34	0.00	-0.03	-0.01	0.09	0.14	0.13	0.02	1.18	0.12	1.06	-0.02	0.03	0.11					
	Global Agg Securitized	USD	0.32	0.38	0.30	0.08	0.07	0.01	-0.01	-0.03	0.00	0.05	0.03	-0.01	-0.02	0.21	0.03	0.18	0.00	0.02	0.09					
	Global Covered Bond	USD	0.70	1.07	0.58	0.05	-0.02	0.07	0.00	-0.02	0.02	0.04	0.01	0.00	0.02	0.53	0.05	0.48	0.00	0.11	0.49					
Global High Yield	USD	2.48	2.55	2.46	0.14	0.10	0.04	0.00	-0.04	-0.02	0.05	0.03	0.01	0.01	2.34	0.45	1.89	-0.02	0.02	0.09						
US	US Aggregate	USD	n/a	0.63	0.63	0.34	0.12	0.22	0.00	-0.04	-0.02	0.05	0.10	0.14	0.01	0.30	0.04	0.25	-0.01	n/a	n/a					
	US Intermediate Agg	USD	n/a	0.27	0.27	0.07	0.11	-0.04	-0.01	-0.05	-0.03	0.04	0.01	0.00	-0.01	0.20	0.03	0.17	-0.01	n/a	n/a					
	US Universal	USD	n/a	0.82	0.82	0.32	0.12	0.19	0.00	-0.04	-0.02	0.05	0.09	0.12	0.01	0.52	0.09	0.43	-0.01	n/a	n/a					
	US Government	USD	n/a	0.39	0.39	0.40	0.13	0.27	0.00	-0.05	-0.03	0.03	0.09	0.21	0.02	0.00	0.00	0.00	-0.01	n/a	n/a					
	US Treasury	USD	n/a	0.41	0.41	0.42	0.14	0.29	0.00	-0.05	-0.03	0.04	0.09	0.22	0.02	-0.01	0.00	-0.01	-0.01	n/a	n/a					
	US Agency	USD	n/a	0.21	0.21	0.15	0.10	0.05	-0.01	-0.06	-0.01	0.03	0.06	0.03	0.01	0.07	0.02	0.05	0.00	n/a	n/a					
	US Credit	USD	n/a	1.31	1.31	0.52	0.15	0.37	0.00	-0.04	-0.03	0.06	0.17	0.18	0.03	0.81	0.12	0.69	-0.02	n/a	n/a					
	US Corporate	USD	n/a	1.46	1.46	0.54	0.15	0.40	0.00	-0.04	-0.03	0.06	0.18	0.20	0.03	0.94	0.13	0.81	-0.02	n/a	n/a					
	US Credit NonCorp	USD	n/a	0.62	0.62	0.42	0.14	0.28	0.00	-0.05	-0.03	0.06	0.15	0.13	0.03	0.22	0.09	0.14	-0.02	n/a	n/a					
	US Securitized	USD	n/a	0.24	0.24	0.08	0.09	-0.01	-0.01	-0.03	-0.01	0.05	0.03	-0.01	-0.03	0.16	0.02	0.14	0.00	n/a	n/a					
	US MBS	USD	n/a	0.20	0.20	0.07	0.08	-0.01	-0.01	-0.03	0.00	0.05	0.03	-0.01	-0.03	0.13	0.02	0.11	0.00	n/a	n/a					
	US MBS Fixed Rate	USD	n/a	0.21	0.21	0.08	0.08	-0.01	-0.01	-0.03	0.00	0.05	0.03	-0.01	-0.03	0.13	0.02	0.11	0.00	n/a	n/a					
	US ABS	USD	n/a	-0.08	-0.08	0.00	0.09	-0.09	-0.01	-0.08	-0.01	0.00	0.01	0.00	0.00	-0.06	0.05	-0.12	-0.01	n/a	n/a					
	USCMBS ERISA	USD	n/a	0.97	0.97	0.16	0.14	0.02	0.00	-0.03	-0.04	0.09	0.00	0.00	0.00	0.81	0.08	0.73	0.00	n/a	n/a					
	US Gov/Credit	USD	n/a	0.80	0.80	0.45	0.14	0.32	0.00	-0.05	-0.03	0.05	0.13	0.20	0.03	0.36	0.05	0.30	-0.01	n/a	n/a					
	US Int Gov/Cred	USD	n/a	0.28	0.28	0.07	0.12	-0.05	0.00	-0.06	-0.04	0.04	0.00	0.00	0.00	0.23	0.04	0.19	-0.01	n/a	n/a					
	US Long Gov/Cred	USD	n/a	2.55	2.55	1.78	0.21	1.57	0.00	-0.01	-0.01	0.06	0.56	0.87	0.10	0.79	0.11	0.69	-0.02	n/a	n/a					
	US Long Credit	USD	n/a	2.78	2.78	1.50	0.20	1.30	0.00	-0.01	-0.01	0.08	0.55	0.60	0.09	1.31	0.18	1.13	-0.03	n/a	n/a					
	US Long Corporate	USD	n/a	3.05	3.05	1.54	0.20	1.34	0.00	-0.01	-0.01	0.08	0.57	0.64	0.09	1.53	0.18	1.35	-0.03	n/a	n/a					
	US HY	USD	n/a	2.70	2.70	0.13	0.12	0.01	0.00	-0.05	-0.03	0.04	0.02	0.01	0.02	2.59	0.46	2.13	-0.01	n/a	n/a					
	US HY 2% Cap	USD	n/a	2.70	2.70	0.13	0.12	0.01	0.00	-0.05	-0.03	0.04	0.02	0.01	0.02	2.59	0.46	2.13	-0.01	n/a	n/a					
	US HY Ba/B	USD	n/a	2.63	2.63	0.14	0.12	0.02	0.00	-0.05	-0.03	0.05	0.03	0.01	0.02	2.50	0.37	2.13	-0.01	n/a	n/a					

Source: Barclays POINT®

<sup>4</sup> The 7-Year KRD is calculated for JPY-denominated instruments only and has been combined with the 5-year key rate performance here.

## PAN-EUROPEAN, ASIA-PACIFIC, AND EMERGING MARKETS RETURN ATTRIBUTION – JULY 2016

FIGURE 3

			Total Return		Local Return Splits														FX Return		
					Hedged/ Unhedged		Total	Curve Return										Spread Return			Total
			Base Curr	Hed	Unh	Local Return		Total Curve	Curve Carry	Curve Chg	Curve Change by Key Rate							Total Sprd	Sprd Carry	Sprd Chg	
6 mo	2 yr	5+7 yr <sup>s</sup>					10 yr				20 yr	30 yr	Conv								
EUR	Euro Aggregate	EUR	n/a	0.95	0.95	0.12	-0.01	0.13	0.00	0.00	0.03	0.04	0.03	0.01	0.02	0.84	0.05	0.78	-0.01	n/a	n/a
	Euro Treasury	EUR	n/a	0.82	0.82	0.15	-0.01	0.15	0.00	0.00	0.03	0.04	0.04	0.02	0.03	0.68	0.04	0.63	-0.01	n/a	n/a
	Euro Treasury FSW	EUR	n/a	0.72	0.72	0.14	-0.01	0.15	0.00	0.00	0.03	0.04	0.04	0.02	0.03	0.58	0.03	0.54	0.00	n/a	n/a
	Euro Treasury GDP	EUR	n/a	0.71	0.71	0.14	-0.01	0.15	0.00	0.00	0.03	0.04	0.04	0.02	0.03	0.57	0.04	0.54	0.00	n/a	n/a
	Euro Govt-Related	EUR	n/a	0.84	0.84	0.09	-0.02	0.11	0.00	0.00	0.04	0.03	0.02	0.01	0.02	0.75	0.05	0.71	0.00	n/a	n/a
	Euro Corporate	EUR	n/a	1.68	1.68	0.07	-0.02	0.09	0.00	0.00	0.04	0.03	0.01	0.00	0.01	1.62	0.10	1.52	-0.01	n/a	n/a
	Euro Securitized	EUR	n/a	0.71	0.71	0.05	-0.03	0.08	0.00	0.00	0.04	0.02	0.00	0.00	0.01	0.66	0.05	0.61	0.00	n/a	n/a
	Euro Covered	EUR	n/a	0.71	0.71	0.05	-0.03	0.08	0.00	0.00	0.04	0.02	0.00	0.00	0.01	0.66	0.05	0.61	0.00	n/a	n/a
	Euro HY	EUR	n/a	2.22	2.22	0.01	-0.04	0.05	0.00	-0.01	0.03	0.01	0.00	0.00	0.01	2.23	0.36	1.86	-0.02	n/a	n/a
Euro HY 2% Cap	EUR	n/a	2.22	2.22	0.01	-0.04	0.05	0.00	-0.01	0.03	0.01	0.00	0.00	0.01	2.24	0.37	1.86	-0.02	n/a	n/a	
GBP	Sterling Aggregate	GBP	n/a	2.70	2.70	1.93	0.09	1.84	0.00	0.03	0.10	0.58	0.53	0.75	-0.17	0.77	0.03	0.74	0.00	n/a	n/a
	Sterling Gilt	GBP	n/a	2.13	2.13	2.03	0.10	1.94	0.00	0.03	0.10	0.52	0.56	0.95	-0.22	0.10	0.00	0.10	0.00	n/a	n/a
	Sterling Non Gilt	GBP	n/a	4.16	4.16	1.67	0.09	1.58	0.00	0.04	0.11	0.73	0.48	0.26	-0.04	2.48	0.12	2.36	0.00	n/a	n/a
	Sterling Corporate	GBP	n/a	4.90	4.90	1.77	0.10	1.68	0.00	0.04	0.12	0.74	0.52	0.27	-0.01	3.12	0.15	2.98	0.00	n/a	n/a
	Sterling Securitized	GBP	n/a	2.59	2.59	1.59	0.10	1.49	0.00	0.03	0.14	1.03	0.29	0.04	-0.04	1.00	0.12	0.88	0.00	n/a	n/a
Pan Euro	Pan Euro Agg	EUR	1.18	0.94	1.20	0.43	0.01	0.42	0.00	0.00	0.04	0.13	0.12	0.14	-0.01	0.78	0.05	0.73	-0.01	-0.02	-0.26
	Pan Euro HY	EUR	2.33	2.14	2.35	0.08	-0.03	0.11	0.00	0.00	0.05	0.04	0.00	0.00	0.01	2.28	0.38	1.90	-0.01	-0.02	-0.21
	Pan Euro HY 2% Cap	EUR	2.34	2.15	2.36	0.08	-0.03	0.11	0.00	0.00	0.05	0.04	0.00	0.00	0.01	2.29	0.39	1.90	-0.01	-0.02	-0.21
APAC	Asia Pac Aggregate	JPY	-0.63	-0.33	-0.60	-0.61	0.02	-0.63	0.00	-0.03	-0.05	-0.05	-0.26	-0.22	-0.02	0.01	0.00	0.01	0.00	-0.03	0.26
	Japanese Aggregate	JPY	n/a	-0.84	-0.84	-0.85	-0.01	-0.84	0.00	-0.04	-0.08	-0.10	-0.33	-0.26	-0.02	0.01	0.00	0.01	0.00	n/a	n/a
	Japan Govt Bond	JPY	n/a	-0.89	-0.89	-0.89	-0.01	-0.88	0.00	-0.04	-0.08	-0.11	-0.36	-0.28	-0.02	0.00	0.00	0.00	0.00	n/a	n/a
	Australian Aggregate	AUD	n/a	0.76	0.76	0.73	0.16	0.57	0.00	0.05	0.18	0.26	0.10	0.01	-0.02	0.02	0.02	0.00	0.00	n/a	n/a
EM	EM USD Aggregate	USD	n/a	1.52	1.52	0.32	0.14	0.18	0.00	-0.04	-0.03	0.06	0.09	0.09	0.02	1.23	0.29	0.94	-0.03	n/a	n/a
	EM USD Agg 10% Cap	USD	n/a	1.53	1.53	0.33	0.14	0.19	0.00	-0.04	-0.03	0.06	0.09	0.10	0.02	1.24	0.29	0.94	-0.03	n/a	n/a
	EM USD Sovereign	USD	n/a	1.50	1.50	0.50	0.15	0.35	0.00	-0.03	-0.03	0.08	0.15	0.16	0.03	1.05	0.29	0.76	-0.04	n/a	n/a
	EM USD Sov 10% Cap	USD	n/a	1.50	1.50	0.50	0.15	0.35	0.00	-0.03	-0.03	0.08	0.15	0.16	0.03	1.05	0.29	0.76	-0.04	n/a	n/a
	EM USD Corp + Quasi	USD	n/a	1.52	1.52	0.21	0.13	0.08	0.00	-0.05	-0.04	0.05	0.05	0.06	0.01	1.34	0.28	1.06	-0.03	n/a	n/a
	EM Pan Euro Agg	EUR	1.87	1.83	1.88	0.15	-0.02	0.17	0.00	0.00	0.04	0.07	0.03	0.02	0.01	1.74	0.20	1.55	-0.02	0.00	-0.05
	EM Hard Cur Agg	USD	1.58	1.64	1.56	0.30	0.12	0.18	0.00	-0.04	-0.02	0.06	0.08	0.09	0.02	1.29	0.27	1.02	-0.03	0.02	0.08
	EM Local Curcy Govt	USD	0.62	1.58	0.92	0.88	0.39	0.48	0.00	0.01	0.05	0.18	0.19	0.05	0.01	0.02	0.00	0.02	0.02	-0.30	0.66
	EM LC Govt - 10% Cap	USD	0.64	1.09	0.99	0.94	0.44	0.50	0.00	0.01	0.04	0.20	0.21	0.04	0.00	0.01	0.00	0.01	0.03	-0.35	0.10

Source: Barclays POINT®

<sup>5</sup> The 7-Year KRD is calculated for JPY-denominated instruments only and has been combined with the 5-year key rate performance here.

## GLOBAL AND US INDEX RETURN ATTRIBUTION – YTD 2016

FIGURE 4

			Total Return		Local Return Splits														FX Return		
					Hedged/ Unhedged		Total	Curve Return										Spread Return			Total
			Base Curr	Hed	Unh	Local Return		Total Curve	Curve Carry	Curve Chg	Curve Change by Key Rate								Total Sprd	Sprd Carry	
6 mo	2 yr	5+7 yr <sup>6</sup>					10 yr				20 yr	30 yr	Conv								
Global	Global Aggregate	USD	6.50	9.78	6.26	5.80	0.66	5.13	0.01	0.23	0.99	1.34	1.32	1.14	0.11	0.47	0.30	0.17	-0.01	0.25	3.53
	Global Agg GDP	USD	6.47	8.96	6.36	5.77	0.80	4.97	0.01	0.23	1.01	1.38	1.21	1.01	0.11	0.60	0.37	0.23	-0.01	0.11	2.60
	Global Treasury	USD	6.98	12.16	6.66	6.68	0.60	6.08	0.01	0.21	0.93	1.36	1.72	1.68	0.18	-0.04	0.08	-0.13	0.03	0.32	5.50
	Global Treasury GDP	USD	6.39	9.68	6.60	6.58	1.07	5.51	0.01	0.23	1.00	1.37	1.37	1.35	0.17	0.00	0.06	-0.06	0.02	-0.22	3.08
	Global Treasury FSW	USD	6.97	10.81	6.76	6.74	0.66	6.08	0.01	0.21	0.95	1.47	1.68	1.58	0.18	0.00	0.08	-0.09	0.03	0.21	4.05
	Global Agg Govt-Rel	USD	5.58	8.47	5.36	4.71	0.62	4.09	0.01	0.26	1.01	1.27	0.85	0.59	0.11	0.67	0.45	0.22	-0.02	0.23	3.12
	Global Agg Corporates	USD	8.27	8.66	8.08	5.97	0.89	5.09	0.01	0.25	1.19	1.49	1.16	0.84	0.15	2.15	0.96	1.18	-0.04	0.19	0.58
	Global Agg Securitized	USD	3.58	3.82	3.46	3.31	0.68	2.64	0.01	0.24	0.91	1.14	0.48	0.02	-0.17	0.22	0.19	0.03	-0.07	0.12	0.36
	Global Covered Bond	USD	4.11	5.70	3.48	3.02	0.04	2.98	0.02	0.26	1.19	1.06	0.28	0.14	0.03	0.43	0.33	0.09	0.03	0.63	2.23
	Global High Yield	USD	11.47	11.50	11.30	4.09	0.85	3.25	0.01	0.29	1.47	1.01	0.24	0.09	0.13	7.23	3.63	3.59	-0.02	0.17	0.20
US	US Aggregate	USD	n/a	5.98	5.98	5.34	1.06	4.28	0.00	0.27	1.07	1.10	0.90	0.86	0.08	0.70	0.34	0.36	-0.07	n/a	n/a
	US Intermediate Agg	USD	n/a	4.06	4.06	3.66	0.94	2.71	0.00	0.32	1.21	1.01	0.18	0.00	0.00	0.45	0.25	0.21	-0.06	n/a	n/a
	US Universal	USD	n/a	6.55	6.55	5.23	1.06	4.17	0.00	0.28	1.12	1.10	0.82	0.76	0.09	1.39	0.67	0.71	-0.07	n/a	n/a
	US Government	USD	n/a	5.64	5.64	5.66	1.12	4.54	0.00	0.32	1.19	0.81	0.74	1.29	0.20	0.00	0.01	0.00	-0.02	n/a	n/a
	US Treasury	USD	n/a	5.79	5.79	5.83	1.14	4.70	0.00	0.31	1.23	0.82	0.75	1.37	0.20	-0.01	0.00	-0.01	-0.03	n/a	n/a
	US Agency	USD	n/a	3.50	3.50	3.27	0.85	2.42	0.01	0.39	0.62	0.62	0.52	0.17	0.09	0.21	0.11	0.10	0.02	n/a	n/a
	US Credit	USD	n/a	8.95	8.95	6.96	1.22	5.73	0.00	0.26	1.15	1.43	1.52	1.17	0.21	2.08	0.95	1.14	-0.09	n/a	n/a
	US Corporate	USD	n/a	9.26	9.26	7.12	1.23	5.88	0.00	0.25	1.17	1.44	1.56	1.25	0.22	2.23	1.00	1.22	-0.09	n/a	n/a
	US Credit NonCorp	USD	n/a	7.55	7.55	6.23	1.16	5.07	0.00	0.30	1.06	1.38	1.33	0.81	0.19	1.43	0.68	0.75	-0.11	n/a	n/a
	US Securitized	USD	n/a	3.51	3.51	3.36	0.83	2.53	0.00	0.24	0.85	1.16	0.49	-0.01	-0.21	0.24	0.17	0.07	-0.09	n/a	n/a
	US MBS	USD	n/a	3.32	3.32	3.29	0.81	2.47	0.00	0.23	0.81	1.13	0.53	-0.01	-0.22	0.13	0.13	0.00	-0.11	n/a	n/a
	US MBS Fixed Rate	USD	n/a	3.32	3.32	3.30	0.81	2.49	0.00	0.23	0.81	1.13	0.54	-0.01	-0.22	0.13	0.13	-0.01	-0.11	n/a	n/a
	US ABS	USD	n/a	2.46	2.46	1.84	0.75	1.09	0.01	0.49	0.45	0.05	0.08	0.01	0.00	0.59	0.39	0.20	0.04	n/a	n/a
	USCMBS ERISA	USD	n/a	6.95	6.95	5.05	1.17	3.89	0.00	0.19	1.65	2.03	0.01	0.00	0.00	1.81	0.67	1.14	0.08	n/a	n/a
	US Gov/Credit	USD	n/a	7.08	7.08	6.22	1.16	5.06	0.00	0.29	1.17	1.08	1.08	1.24	0.20	0.91	0.41	0.49	-0.05	n/a	n/a
	US Int Gov/Cred	USD	n/a	4.36	4.36	3.82	1.01	2.82	0.00	0.36	1.41	0.92	0.00	0.00	0.12	0.58	0.30	0.28	-0.04	n/a	n/a
	US Long Gov/Cred	USD	n/a	17.25	17.25	15.21	1.74	13.47	0.00	0.04	0.27	1.66	5.11	5.88	0.51	2.16	0.86	1.30	-0.12	n/a	n/a
	US Long Credit	USD	n/a	17.09	17.09	13.73	1.65	12.07	0.00	0.06	0.38	2.06	5.17	3.99	0.42	3.55	1.41	2.14	-0.18	n/a	n/a
	US Long Corporate	USD	n/a	17.40	17.40	13.96	1.66	12.29	0.00	0.05	0.36	1.94	5.27	4.23	0.44	3.61	1.42	2.19	-0.17	n/a	n/a
	US HY	USD	n/a	12.01	12.01	4.31	1.04	3.27	0.00	0.28	1.61	0.98	0.19	0.04	0.16	7.69	3.77	3.92	0.01	n/a	n/a
US HY 2% Cap	USD	n/a	12.01	12.01	4.31	1.04	3.27	0.00	0.28	1.61	0.98	0.19	0.04	0.16	7.69	3.77	3.92	0.01	n/a	n/a	
US HY Ba/B	USD	n/a	10.33	10.33	4.47	1.05	3.42	0.00	0.27	1.61	1.07	0.21	0.05	0.20	5.87	3.04	2.83	-0.01	n/a	n/a	

Source: Barclays POINT®

<sup>6</sup> The 7-Year KRD is calculated for JPY-denominated instruments only and has been combined with the 5-year key rate performance here.



## PAN-EUROPEAN, ASIA-PACIFIC, AND EMERGING MARKETS RETURN ATTRIBUTION – YTD 2016

FIGURE 5

			Total Return		Local Return Splits														FX Return								
					Hedged/ Unhedged		Total	Curve Return										Spread Return			Total	Hedged/ Unhedged					
			Hed	Unh	Local Return	Total Curve		Curve Carry	Curve Chg	Curve Change by Key Rate								Total Sprd	Sprd Carry	Sprd Chg		Vol/ Other	Hed	Unh			
Family Index	Base Curr							6 mo	2 yr	5+7 yr <sup>2</sup>	10 yr	20 yr	30 yr	Conv													
EUR	Euro Aggregate	EUR	n/a	5.85	5.85	5.49	0.09	5.41	0.02	0.21	1.08	1.85	1.37	0.76	0.12	0.33	0.39	-0.07	0.03	n/a	n/a						
	Euro Treasury	EUR	n/a	6.54	6.54	6.69	0.13	6.56	0.02	0.20	0.96	2.06	1.97	1.18	0.18	-0.17	0.31	-0.48	0.02	n/a	n/a						
	Euro Treasury FSW	EUR	n/a	6.76	6.76	6.76	0.13	6.63	0.02	0.20	0.96	2.02	2.01	1.26	0.18	-0.03	0.24	-0.28	0.03	n/a	n/a						
	Euro Treasury GDP	EUR	n/a	6.68	6.72	6.72	0.13	6.59	0.02	0.20	0.96	2.03	1.98	1.23	0.18	-0.07	0.25	-0.32	0.03	n/a	n/a						
	Euro Govt-Related	EUR	n/a	4.59	4.59	4.39	0.05	4.34	0.02	0.23	1.18	1.67	0.84	0.34	0.06	0.17	0.33	-0.16	0.04	n/a	n/a						
	Euro Corporate	EUR	n/a	5.82	5.82	3.50	0.02	3.48	0.02	0.22	1.27	1.64	0.31	0.02	0.01	2.25	0.81	1.44	0.07	n/a	n/a						
	Euro Securitized	EUR	n/a	3.60	3.60	2.97	-0.03	2.99	0.02	0.24	1.37	1.10	0.21	0.05	0.00	0.59	0.33	0.26	0.05	n/a	n/a						
	Euro Covered	EUR	n/a	3.59	3.59	2.96	-0.03	2.98	0.02	0.24	1.37	1.11	0.20	0.05	0.00	0.58	0.32	0.26	0.05	n/a	n/a						
	Euro HY	EUR	n/a	5.95	5.95	2.06	-0.12	2.18	0.03	0.29	1.04	0.71	0.05	0.03	0.02	3.65	2.69	0.96	0.24	n/a	n/a						
Euro HY 2% Cap	EUR	n/a	5.98	5.98	2.01	-0.12	2.13	0.03	0.29	1.04	0.69	0.03	0.02	0.02	3.72	2.74	0.98	0.25	n/a	n/a							
GBP	Sterling Aggregate	GBP	n/a	13.78	13.78	13.14	1.05	12.09	0.00	0.31	1.36	2.62	3.00	4.49	0.31	0.62	0.27	0.35	0.03	n/a	n/a						
	Sterling Gilt	GBP	n/a	14.41	14.41	14.27	1.08	13.19	0.00	0.29	1.34	2.36	3.13	5.70	0.37	0.11	0.00	0.11	0.03	n/a	n/a						
	Sterling Non Gilt	GBP	n/a	12.24	12.24	10.41	0.98	9.43	0.00	0.34	1.42	3.27	2.67	1.56	0.16	1.81	0.91	0.90	0.01	n/a	n/a						
	Sterling Corporate	GBP	n/a	13.33	13.33	10.77	1.01	9.75	0.00	0.31	1.52	3.30	2.86	1.58	0.19	2.55	1.10	1.46	0.01	n/a	n/a						
	Sterling Securitized	GBP	n/a	10.20	10.20	9.78	1.06	8.72	0.00	0.24	1.72	4.70	1.72	0.23	0.11	0.38	0.82	-0.44	0.03	n/a	n/a						
Pan Euro	Pan Euro Agg	EUR	6.91	4.57	7.13	6.73	0.28	6.46	0.01	0.22	1.11	1.94	1.64	1.38	0.15	0.36	0.36	0.01	0.03	-0.21	-2.56						
	Pan Euro HY	EUR	5.63	3.35	5.70	2.45	-0.01	2.46	0.02	0.33	1.18	0.75	0.06	0.05	0.06	3.04	2.74	0.30	0.21	-0.07	-2.35						
	Pan Euro HY 2% Cap	EUR	5.63	3.34	5.70	2.41	-0.01	2.42	0.02	0.33	1.18	0.74	0.04	0.04	0.06	3.07	2.78	0.29	0.22	-0.07	-2.35						
APAC	Asia Pac Aggregate	JPY	5.43	3.71	5.71	5.63	0.27	5.36	0.01	0.16	0.67	1.02	1.90	1.48	0.12	0.00	0.03	-0.02	0.07	-0.28	-2.00						
	Japanese Aggregate	JPY	n/a	5.73	5.73	5.67	0.06	5.61	0.01	0.13	0.61	0.92	2.13	1.68	0.12	-0.02	0.01	-0.04	0.08	n/a	n/a						
	Japan Govt Bond	JPY	n/a	6.13	6.13	6.02	0.08	5.94	0.01	0.13	0.59	0.97	2.30	1.81	0.13	0.02	0.00	0.02	0.09	n/a	n/a						
	Australian Aggregate	AUD	n/a	6.08	6.08	5.82	1.40	4.42	0.03	0.34	1.28	2.07	0.57	0.04	0.09	0.22	0.17	0.05	0.04	n/a	n/a						
EM	EM USD Aggregate	USD	n/a	11.06	11.06	5.76	1.16	4.61	0.00	0.27	1.35	1.44	0.80	0.60	0.15	5.48	2.32	3.17	-0.19	n/a	n/a						
	EM USD Agg 10% Cap	USD	n/a	11.32	11.32	5.83	1.16	4.67	0.00	0.26	1.36	1.45	0.83	0.62	0.15	5.69	2.37	3.31	-0.20	n/a	n/a						
	EM USD Sovereign	USD	n/a	12.05	12.05	7.24	1.27	5.97	0.00	0.20	1.26	1.99	1.35	1.00	0.16	5.11	2.24	2.88	-0.31	n/a	n/a						
	EM USD Sov 10% Cap	USD	n/a	12.05	12.05	7.24	1.27	5.97	0.00	0.20	1.26	1.99	1.35	1.00	0.16	5.11	2.24	2.88	-0.31	n/a	n/a						
	EM USD Corp + Quasi	USD	n/a	10.45	10.45	4.86	1.09	3.77	0.00	0.31	1.40	1.10	0.46	0.36	0.14	5.71	2.36	3.35	-0.12	n/a	n/a						
	EM Pan Euro Agg	EUR	6.90	6.31	6.93	4.15	0.07	4.08	0.01	0.24	1.18	1.72	0.59	0.31	0.03	2.86	1.68	1.18	-0.08	-0.03	-0.61						
	EM Hard Cur Agg	USD	10.61	10.85	10.50	5.55	1.01	4.54	0.00	0.27	1.33	1.47	0.77	0.56	0.13	5.13	2.23	2.90	-0.18	0.11	0.35						
	EM Local Curcy Govt	USD	5.81	12.77	7.70	7.78	2.96	4.82	0.02	0.49	1.17	1.58	0.96	0.51	0.09	-0.02	0.01	-0.03	-0.05	-1.90	5.06						
	EM LC Govt - 10% Cap	USD	6.04	13.19	8.25	8.38	3.41	4.96	0.02	0.51	1.25	1.65	0.98	0.45	0.10	-0.05	0.01	-0.05	-0.08	-2.21	4.94						

Source: Barclays POINT®

<sup>7</sup> The 7-Year KRD is calculated for JPY-denominated instruments only and has been combined with the 5-year key rate performance here.



## HISTORICAL MONTHLY TOTAL RETURN COMPARISON – JULY 2016

FIGURE 6

## Trailing 5 Year and 10 Year

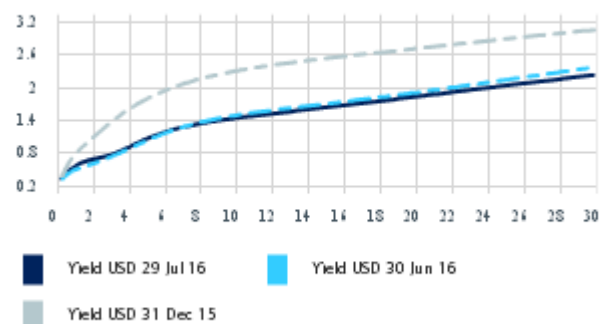
Index			June 2016 Total Return					Trailing 5yr Monthly Total Returns										Trailing 10yr Monthly Total Returns											
			MTD		Historical Rank			Count		Dispersion								Count		Dispersion									
Name	Base Curr	Ret Type	Jul-16	1yr	3yr	5yr	10yr	# Pos	# Neg	Avg	Stdev	Min	25th	50th	75th	Max	Shrp Ratio	Max Draw	# Pos	# Neg	Avg	Stdev	Min	25th	50th	75th	Max	Shrp Ratio	Max Draw
US Agg	USD	UH	0.63	6/12	16/36	24/60	53/120	40	20	0.30	0.78	-1.78	-0.19	0.15	0.88	2.10	1.27	3.81	83	37	0.42	0.93	-2.36	-0.14	0.42	1.04	3.73	1.23	3.98
US Gov/Credit	USD	UH	0.80	5/12	12/36	20/60	47/120	37	23	0.32	0.92	-1.92	-0.24	0.26	1.00	2.64	1.18	4.24	78	42	0.43	1.12	-2.53	-0.22	0.44	1.15	4.53	1.05	5.89
US Govt	USD	UH	0.39	5/12	16/36	27/60	62/120	32	28	0.26	0.90	-1.63	-0.31	0.11	0.85	2.54	0.97	3.37	72	48	0.38	1.10	-2.49	-0.27	0.42	0.95	4.74	0.94	3.37
US Credit	USD	UH	1.31	3/12	8/36	14/60	34/120	41	19	0.41	1.18	-2.85	-0.23	0.49	1.20	2.83	1.19	5.53	81	39	0.51	1.58	-6.57	-0.26	0.57	1.42	6.27	0.92	15.55
US Treasury	USD	UH	0.41	5/12	16/36	27/60	61/120	32	28	0.27	0.95	-1.71	-0.35	0.12	0.88	2.78	0.95	3.55	69	51	0.40	1.21	-2.92	-0.31	0.41	1.02	5.31	0.89	4.50
US MBS	USD	UH	0.20	6/12	19/36	28/60	67/120	42	18	0.24	0.58	-1.53	-0.05	0.17	0.63	1.56	1.36	2.93	91	29	0.40	0.72	-1.53	0.03	0.28	0.81	3.93	1.48	2.93
US HY	USD	UH	2.70	4/12	4/36	6/60	19/120	40	20	0.52	1.94	-4.00	-0.64	0.75	1.64	5.99	0.91	10.72	85	35	0.67	3.10	-15.91	-0.59	0.96	1.90	12.10	0.65	49.94
US HY 2%	USD	UH	2.70	4/12	4/36	6/60	19/120	40	20	0.52	1.94	-4.02	-0.64	0.75	1.64	6.00	0.91	10.68	85	35	0.68	3.06	-16.09	-0.59	0.95	1.91	11.80	0.67	48.08
Euro Agg	EUR	UH	0.95	4/12	11/36	20/60	33/120	46	14	0.54	1.07	-2.32	0.11	0.74	1.02	3.16	1.72	4.54	81	39	0.43	1.01	-2.32	-0.39	0.62	0.97	3.16	1.18	4.74
Euro Treasury	EUR	UH	0.82	7/12	20/36	29/60	48/120	45	15	0.61	1.32	-2.57	-0.02	0.77	1.34	3.96	1.58	5.72	80	40	0.45	1.22	-2.57	-0.50	0.64	1.19	3.96	1.04	6.09
Euro Corporate	EUR	UH	1.68	1/12	1/36	6/60	11/120	44	16	0.46	1.08	-3.06	-0.15	0.56	1.07	2.94	1.44	3.41	78	42	0.39	1.15	-4.36	-0.25	0.55	1.01	3.45	0.93	7.62
Euro HY	EUR	UH	2.22	3/12	3/36	11/60	25/120	42	18	0.69	2.29	-6.26	-0.23	0.64	2.04	7.10	1.02	5.96	83	37	0.68	3.56	-17.94	-0.43	0.72	2.07	12.71	0.58	60.19
Pan Euro HY	EUR	UH	2.14	3/12	4/36	13/60	29/120	43	17	0.72	2.29	-6.44	-0.09	0.82	2.03	6.70	1.07	5.56	81	39	0.75	3.57	-16.08	-0.47	0.80	2.09	14.34	0.64	63.14
Pan Euro HY 2%	EUR	UH	2.15	3/12	4/36	13/60	29/120	43	17	0.72	2.32	-6.58	-0.10	0.84	2.04	6.74	1.06	5.60	82	38	0.74	3.61	-17.84	-0.63	0.83	2.12	14.82	0.62	62.98
Sterling Agg	GBP	UH	2.70	3/12	6/36	7/60	12/120	38	22	0.63	1.75	-3.94	-0.61	0.89	1.65	5.03	1.23	6.16	75	45	0.53	1.69	-4.31	-0.63	0.59	1.49	5.03	0.91	6.16
Sterling Gilt	GBP	UH	2.13	3/12	7/36	10/60	20/120	38	22	0.63	1.94	-4.44	-0.75	0.75	1.74	5.92	1.10	6.36	74	46	0.57	1.88	-4.72	-0.71	0.55	1.70	5.92	0.89	6.36
Asia Pac Agg	JPY	UH	-0.33	11/12	33/36	54/60	103/120	42	18	0.31	0.57	-1.34	-0.04	0.31	0.68	1.83	1.80	2.23	82	38	0.24	0.62	-1.34	-0.10	0.27	0.56	2.18	0.88	3.23
EM USD Agg	USD	UH	1.52	5/12	10/36	17/60	40/120	37	23	0.50	1.85	-4.49	-0.43	0.74	1.63	4.77	0.91	8.47	82	38	0.65	2.77	-19.45	-0.27	0.87	1.85	8.69	0.71	34.45
EM USD Agg 10%	USD	UH	1.53	5/12	10/36	17/60	38/120	37	23	0.52	1.90	-4.57	-0.41	0.75	1.78	4.75	0.93	8.46	82	38	0.67	2.87	-20.74	-0.30	0.84	2.00	7.92	0.70	35.80
EM USD Sov	USD	UH	1.50	6/12	12/36	22/60	45/120	39	21	0.55	1.97	-5.08	-0.72	0.69	1.66	4.36	0.95	10.80	84	36	0.68	2.66	-17.75	-0.30	0.96	1.85	9.12	0.77	29.35
EM USD Sov 10%	USD	UH	1.50	6/12	12/36	21/60	43/120	39	21	0.55	1.98	-5.08	-0.72	0.69	1.70	4.33	0.94	10.80	84	36	0.68	2.76	-19.21	-0.31	0.88	1.93	8.38	0.74	31.85
EM Local Govt	USD	UH	1.58	5/12	12/36	20/60	34/120	34	26	0.06	3.23	-9.79	-1.97	0.44	2.05	8.44	0.05	23.71	58	39	0.31	3.70	-10.81	-1.82	0.62	2.36	10.13	0.16	36.21
EM Local Govt 10%	USD	UH	1.09	6/12	14/36	23/60	43/120	33	27	0.00	3.31	-9.55	-2.44	0.40	2.16	8.44	-0.01	29.09	59	38	0.31	3.64	-12.16	-1.55	0.69	2.52	8.44	0.16	32.81
		H	0.64	7/12	14/36	23/60	39/120	38	22	0.28	1.02	-2.74	-0.37	0.36	0.96	2.64	0.92	6.34	68	29	0.37	1.07	-2.74	-0.18	0.43	0.94	4.26	0.69	6.34
Global Agg	USD	UH	0.75	6/12	12/36	21/60	51/120	32	28	0.13	1.25	-2.97	-0.74	0.16	1.08	2.92	0.34	8.29	74	46	0.37	1.66	-3.81	-0.70	0.47	1.35	6.21	0.59	11.20
		H	0.60	5/12	15/36	23/60	50/120	43	17	0.38	0.73	-1.43	-0.14	0.46	0.91	1.90	1.76	2.88	82	38	0.41	0.77	-1.43	-0.14	0.46	0.94	2.71	1.44	2.88
Global Tsy	USD	UH	0.48	8/12	15/36	25/60	54/120	31	29	0.09	1.48	-3.51	-0.95	0.11	1.10	4.16	0.18	11.93	71	49	0.37	1.93	-4.97	-0.95	0.35	1.60	7.22	0.50	11.93
		H	0.29	7/12	22/36	35/60	68/120	41	19	0.40	0.81	-1.49	-0.16	0.39	0.82	2.28	1.69	2.60	80	40	0.40	0.84	-1.49	-0.14	0.42	0.88	2.88	1.30	3.21

Source: Barclays Risk Analytics and Index Solutions

## YIELD CURVE CHANGES/INDEX SPREAD CHANGES

FIGURE 7

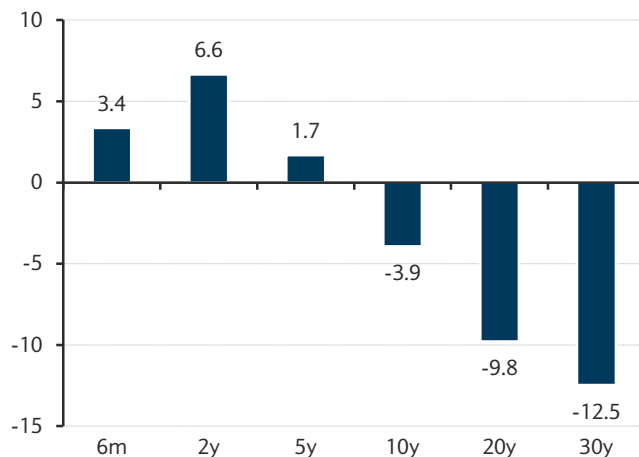
### UST Yield Curves



Source: Barclays Live - Chart

FIGURE 8

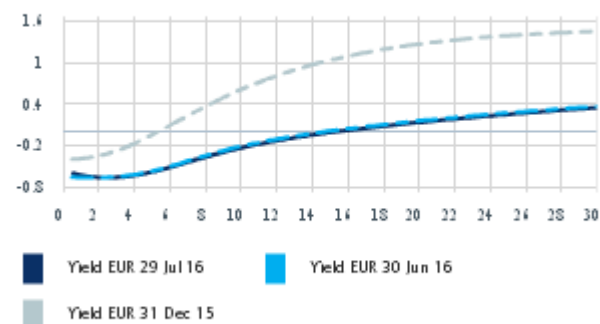
### Monthly Key Rate Yield Changes, USD, bp



Source: Barclays POINT®

FIGURE 9

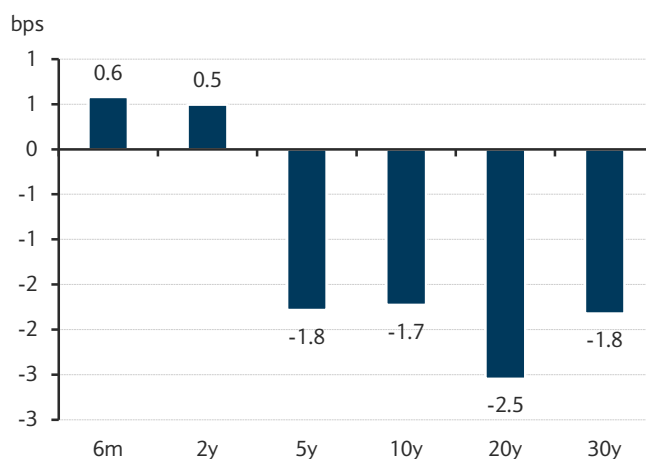
### German Bund Yield Curve



Source: Barclays Live - Chart

FIGURE 10

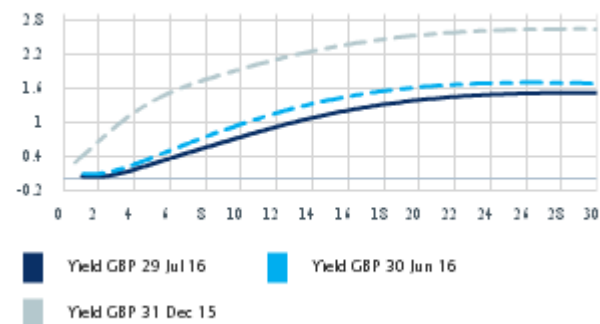
### Monthly Key Rate Yield Changes, Bund, bp



Source: Barclays POINT®

FIGURE 11

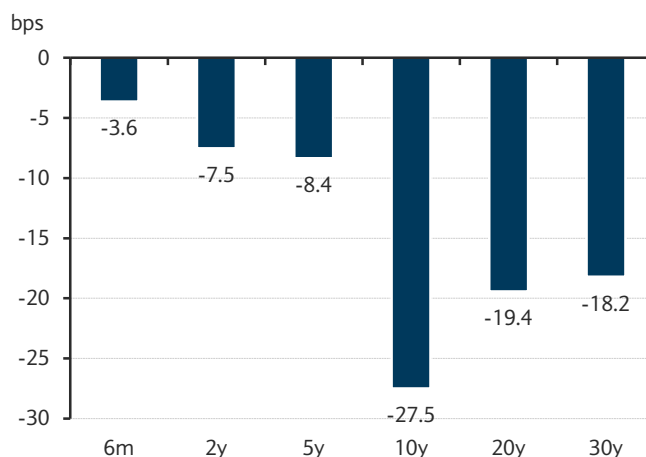
### Gilt Yield Curve



Source: Barclays Live - Chart

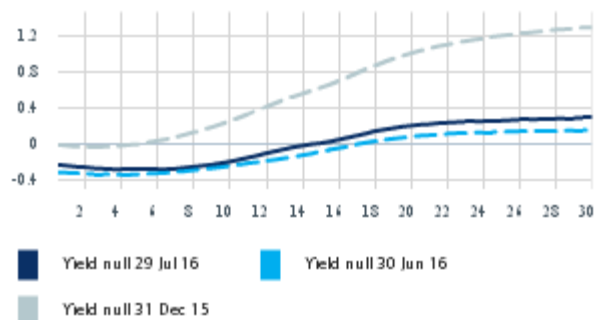
FIGURE 12

### Monthly Key Rate Yield Changes, Gilt, bp



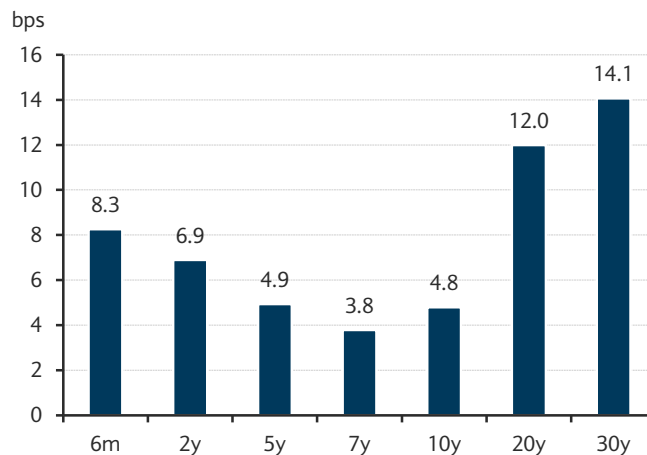
Source: Barclays POINT®

FIGURE 13  
JGB Yield Curve



Source: Barclays Live - Chart

FIGURE 14  
Monthly Key Rate Yield Changes, JGB, bp



Source: Barclays POINT®

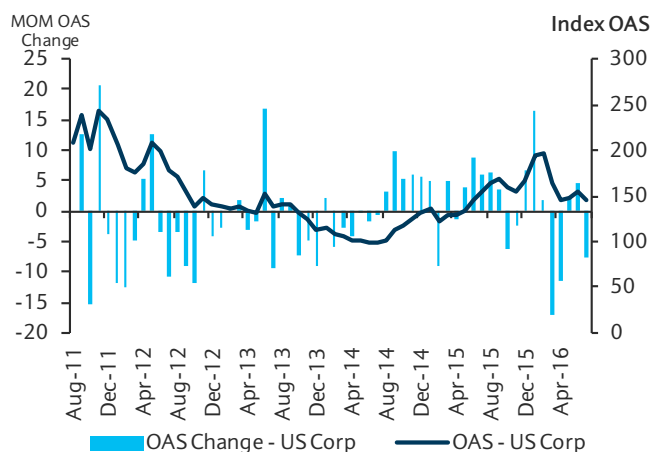
FIGURE 15  
Key Rate Changes and Curve Crosses for UST, Bund, Gilt, and JGB Bellwethers

		Key Rates					Yield Crosses & Reshaping											
		Yield			Change in Yield		Crosses (as of 07/29/16)				Reshaping - MOM				Reshaping - YTD			
		Jul-16	Jun-16	Dec-15	M-O-M	Y-T-D	2y	5y	10y	30y	2y	5y	10y	30y	2y	5y	10y	30y
UST	2y	0.68	0.61	1.08	0.07	-0.40	2y	0.40	0.79	1.57	2y	-0.05	-0.11	-0.19	-0.33	-0.46	-0.39	
	5y	1.07	1.06	1.80	0.02	-0.73	5y	0.40	0.39	1.17	5y	-0.05	-0.06	-0.14	-0.33	-0.13	-0.06	
	10y	1.46	1.50	2.32	-0.04	-0.86	10y	0.79	0.39	0.78	10y	-0.11	-0.06	-0.09	-0.46	-0.13	0.07	
	30y	2.25	2.37	3.04	-0.12	-0.79	30y	1.57	1.17	0.78	30y	-0.19	-0.14	-0.09	-0.39	-0.06	0.07	
Bund	2y	-0.66	-0.66	-0.35	0.00	-0.31	2y	0.07	0.47	1.03	2y	-0.02	-0.02	-0.02	-0.25	-0.56	-0.80	
	5y	-0.59	-0.57	-0.03	-0.02	-0.56	5y	0.07	0.40	0.96	5y	-0.02	0.00	0.00	-0.25	-0.31	-0.55	
	10y	-0.19	-0.18	0.68	-0.02	-0.87	10y	0.47	0.40	0.57	10y	-0.02	0.00	0.00	-0.56	-0.31	-0.24	
	30y	0.38	0.39	1.49	-0.02	-1.11	30y	1.03	0.96	0.57	30y	-0.02	0.00	0.00	-0.80	-0.55	-0.24	
Gilt	2y	0.04	0.12	0.69	-0.08	-0.65	2y	0.27	0.70	1.50	2y	-0.01	-0.20	-0.11	-0.41	-0.58	-0.46	
	5y	0.31	0.39	1.37	-0.08	-1.06	5y	0.27	0.43	1.24	5y	-0.01	-0.19	-0.10	-0.41	-0.17	-0.04	
	10y	0.74	1.02	1.97	-0.27	-1.23	10y	0.70	0.43	0.81	10y	-0.20	-0.19	0.09	-0.58	-0.17	0.12	
	30y	1.55	1.73	2.65	-0.18	-1.11	30y	1.50	1.24	0.81	30y	-0.11	-0.10	0.09	-0.46	-0.04	0.12	
JGB	2y	-0.25	-0.32	-0.03	0.07	-0.23	2y	-0.03	0.07	0.55	2y	-0.02	-0.02	0.07	-0.06	-0.22	-0.78	
	5y	-0.28	-0.33	0.01	0.05	-0.29	5y	-0.03	0.09	0.58	5y	-0.02	0.00	0.09	-0.06	-0.16	-0.71	
	10y	-0.19	-0.24	0.26	0.05	-0.45	10y	0.07	0.09	0.49	10y	-0.02	0.00	0.09	-0.22	-0.16	-0.55	
	30y	0.30	0.16	1.30	0.14	-1.00	30y	0.55	0.58	0.49	30y	0.07	0.09	0.09	-0.78	-0.71	-0.55	

Source: Barclays POINT®

FIGURE 16

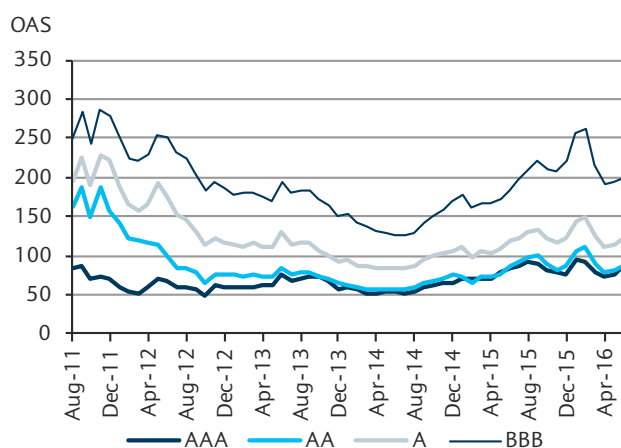
## US Corp Index OAS and MOM OAS Change



Source: Barclays POINT®

FIGURE 17

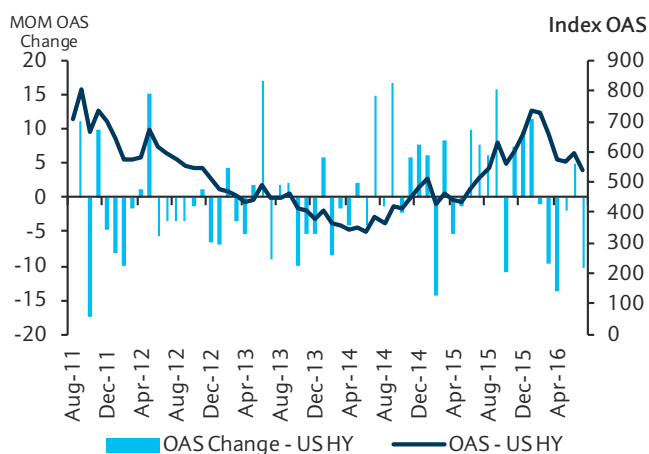
## US Corp Index OAS by Credit Quality



Source: Barclays POINT®

FIGURE 18

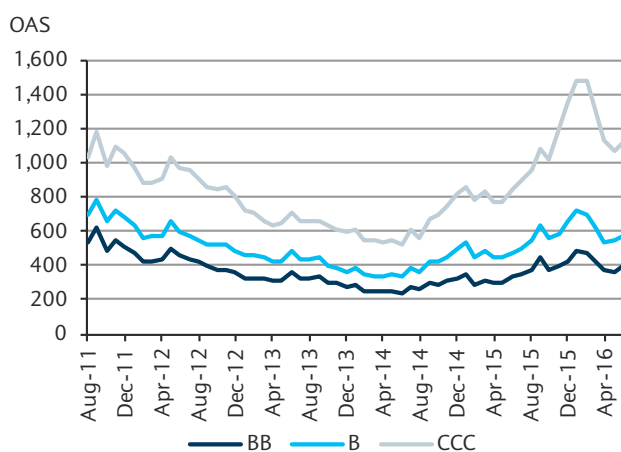
## US HY Index OAS and MOM OAS Change



Source: Barclays POINT®

FIGURE 19

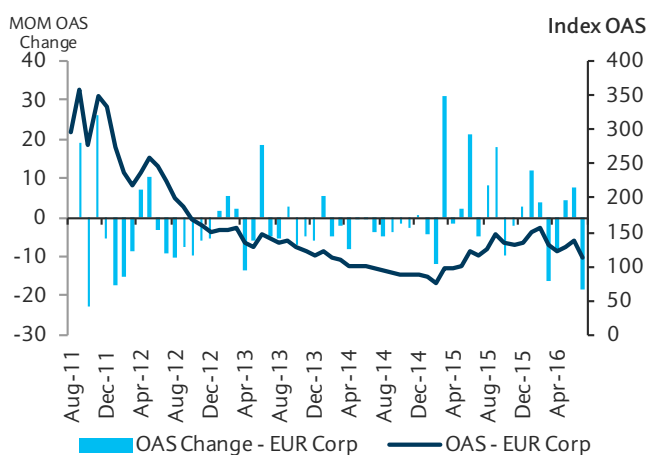
## US HY Index OAS by Credit Quality



Source: Barclays POINT®

FIGURE 20

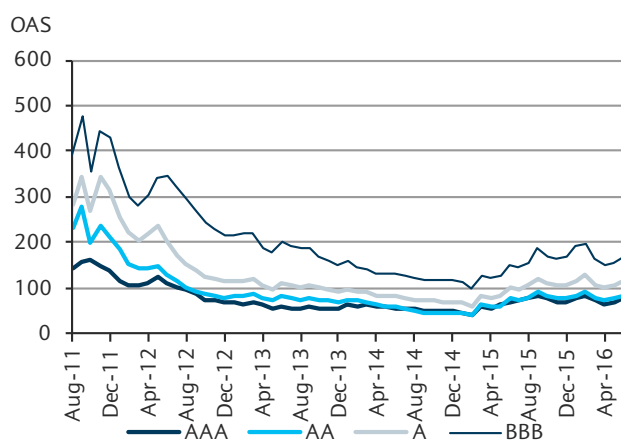
## Euro Corp Index OAS and MOM OAS Change



Source: Barclays POINT®

FIGURE 21

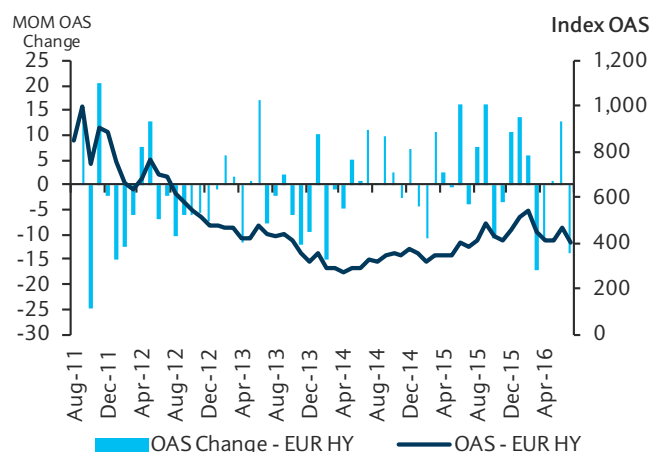
## Euro Corp Index OAS by Credit Quality



Source: Barclays POINT®

FIGURE 22

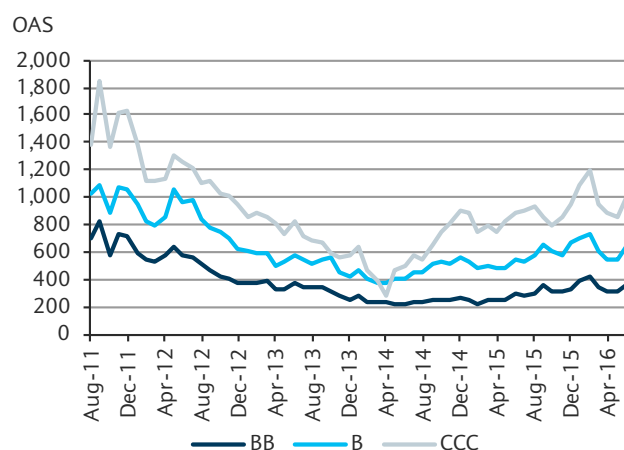
## Euro HY Index OAS and MOM OAS Change



Source: Barclays POINT®

FIGURE 23

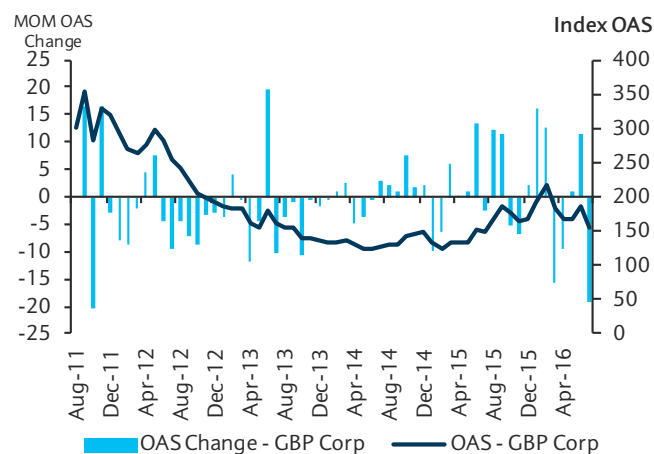
## Euro HY Index OAS by Credit Quality



Source: Barclays POINT®

FIGURE 24

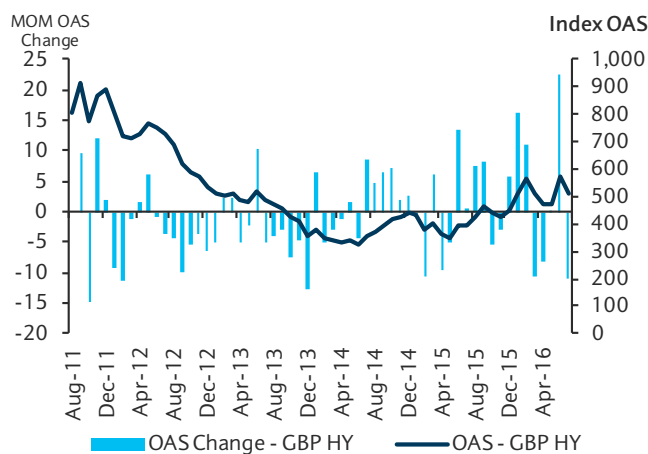
## GBP Corp Index OAS and MOM OAS Change



Source: Barclays POINT®

FIGURE 25

## GBP HY Index OAS and MOM OAS Change



Source: Barclays POINT®

FIGURE 26

## Investment-Grade and High-Yield Corporate Index OAS Changes by Currency and Credit Quality

	USD					EUR					GBP				
	Jul-16	Jun-16	Dec-15	MOM	YTD	Jul-16	Jun-16	Dec-15	MOM	YTD	Jul-16	Jun-16	Dec-15	MOM	YTD
Inv. Grade	144.7	155.8	165.4	-11.0	-20.7	113.9	137.3	133.8	-23.4	-19.8	153.8	187.2	167.0	-33.4	-13.2
AAA	84.3	87.1	76.6	-2.7	7.7	60.8	78.8	67.7	-18.1	-7.0	42.8	57.5	58.2	-14.7	-15.4
AA	81.8	87.0	85.3	-5.2	-3.5	68.7	83.6	78.5	-14.9	-9.8	91.8	115.3	103.0	-23.5	-11.3
A	113.7	123.2	121.5	-9.5	-7.8	96.9	116.5	106.8	-19.6	-10.0	130.5	160.5	141.2	-30.0	-10.7
BBB	185.6	200.1	220.1	-14.5	-34.5	138.6	167.3	171.0	-28.7	-32.4	189.1	228.2	203.0	-39.1	-13.9
High Yield	540.0	594.3	660.4	-54.3	-120.4	404.4	462.4	459.9	-58.0	-55.5	519.8	586.5	450.6	-66.8	69.2
BB	349.8	393.7	417.0	-43.9	-67.3	304.9	353.2	330.6	-48.2	-25.7	369.3	420.2	341.8	-50.8	27.5
B	516.3	575.6	653.9	-59.3	-137.6	547.7	636.4	668.8	-88.7	-121.1	641.1	749.2	560.6	-108.1	80.5
CCC	1056.6	1119.1	1350.8	-62.5	-294.2	939.0	996.4	946.2	-57.5	-7.2	1195.8	1145.8	769.3	50.0	426.4
CA-NR	2370.9	2487.9	4383.3	-117.0	-2012.4	1980.6	2698.9	1755.2	-718.2	225.4	2995.0	2943.9	2455.1	51.1	539.9

Source: Barclays POINT®

## CURRENCY RETURNS

FIGURE 27

## Currency Returns of Flagship Global Indices

Index Weights by Local Currency as of Jul 29 <sup>th</sup> , 2016																								
Index	USD	CAD	EUR	GBP	CHF	NOK	SEK	DKK	JPY	SGD	AUD	KRW	Others	Total										
Global Agg	43.4	2.5	23.9	5.5	0.7	0.1	0.5	0.3	18.5	0.2	1.3	1.3	1.9	100										
Global Agg GDP	42.9	2.8	26.8	5.2	1.1	0.2	0.7	0.5	9.5	0.3	2.2	2.0	5.9	100										
Global Treasury	26.9	1.3	25.8	7.1	0.4	0.2	0.3	0.4	30.8	0.3	1.2	2.2	3.2	100										
Global Treasury GDP	33.0	3.5	24.8	5.5	1.4	1.0	1.1	0.7	9.6	0.6	2.9	2.6	13.4	100										
Global Treasury FSW	22.9	1.6	33.5	7.1	0.8	0.4	0.7	0.9	19.1	0.5	2.0	4.9	5.6	100										
Global Agg Govt-Related	38.2	10.6	31.4	3.4	1.2	0.1	0.4		9.0	0.2	4.5	0.3	0.6	100										
Global Agg Corp	67.3	2.6	21.4	5.6	0.6	0.0	0.0		1.9	0.1	0.5	0.0	0.1	100										
Global Agg Securitized	81.6	0.1	13.7	0.9	1.6	0.1	1.6	0.4			0.0			100										
Covered Bonds Global	5.4	0.4	72.7	2.0	8.3	0.3	8.6	2.0			0.2			100										
Global High Yield	81.7		15.5	2.6	0.2		0.0							100										
Multiverse	44.6	2.4	23.6	5.3	0.7	0.1	0.4	0.3	17.4	0.2	1.2	1.2	2.8	100										
Unhedged FX Return by Base Reporting Currency – Jul 2016														Unhedged FX Return by Base Reporting Currency - Year to Date										
Index	USD	CAD	EUR	GBP	CHF	NOK	SEK	DKK	JPY	SGD	AUD	KRW	USD	CAD	EUR	GBP	CHF	NOK	SEK	DKK	JPY	SGD	AUD	KRW
Global Agg	0.20	0.61	-0.46	0.89	-0.60	0.86	0.92	-0.48	0.10	-0.01	-1.85	-2.57	3.36	-3.02	0.38	14.97	-0.26	-1.69	4.64	0.05	-12.12	-2.22	-1.13	-1.33
Global Agg GDP	0.27	0.68	-0.39	0.96	-0.53	0.93	0.99	-0.41	0.17	0.06	-1.78	-2.51	2.47	-3.86	-0.49	13.98	-1.13	-2.54	3.74	-0.82	-12.88	-3.07	-2.00	-2.19
Global Treasury	0.24	0.65	-0.42	0.93	-0.56	0.90	0.96	-0.44	0.14	0.03	-1.80	-2.53	5.21	-1.26	2.21	17.11	1.55	0.09	6.56	1.87	-10.57	-0.46	0.68	0.50
Global Treasury GDP	0.11	0.52	-0.55	0.79	-0.69	0.77	0.83	-0.58	0.00	-0.10	-1.94	-2.66	2.90	-3.43	-0.05	14.54	-0.70	-2.11	4.22	-0.38	-12.54	-2.65	-1.55	-1.73
Global Treasury FSW	0.37	0.79	-0.29	1.06	-0.43	1.03	1.09	-0.31	0.27	0.16	-1.68	-2.40	3.82	-2.56	0.86	15.58	0.20	-1.22	5.16	0.52	-11.75	-1.77	-0.65	-0.84
Global Agg Govt-Related	0.27	0.69	-0.39	0.97	-0.53	0.94	1.00	-0.41	0.17	0.06	-1.78	-2.51	2.97	-3.37	0.01	14.50	-0.62	-2.04	4.26	-0.32	-12.42	-2.57	-1.49	-1.69
Global Agg Corp	0.11	0.53	-0.55	0.81	-0.70	0.78	0.84	-0.58	0.01	-0.10	-1.96	-2.69	0.55	-5.75	-2.44	11.73	-3.06	-4.45	1.68	-2.77	-14.54	-4.95	-3.98	-4.20
Global Agg Securitized	0.09	0.50	-0.57	0.78	-0.71	0.75	0.81	-0.59	-0.02	-0.12	-1.95	-2.67	0.35	-5.81	-2.52	11.53	-3.12	-4.53	1.60	-2.85	-14.59	-5.02	-3.95	-4.15
Covered Bonds Global	0.49	0.90	-0.17	1.18	-0.32	1.15	1.21	-0.20	0.38	0.28	-1.57	-2.30	2.14	-4.11	-0.77	13.51	-1.39	-2.80	3.43	-1.10	-13.05	-3.32	-2.22	-2.41
Global High Yield	0.09	0.51	-0.58	0.79	-0.73	0.76	0.82	-0.61	-0.02	-0.13	-2.00	-2.74	0.21	-6.23	-2.87	11.12	-3.48	-4.89	1.18	-3.20	-14.90	-5.34	-4.45	-4.69
Hedged FX Return by Base Reporting Currency – Jul 2016													Hedged FX Return by Base Reporting Currency - Year to Date											
Index	USD	CAD	EUR	GBP	CHF	NOK	SEK	DKK	JPY	SGD	AUD	KRW	USD	CAD	EUR	GBP	CHF	NOK	SEK	DKK	JPY	SGD	AUD	KRW
Global Agg	0.04	0.03	-0.07	0.02	-0.16	0.05	-0.09	-0.07	-0.05	0.07	0.15	0.06	0.24	0.17	-0.43	0.36	-0.83	0.33	-0.52	-0.46	-0.54	0.55	1.13	0.65
Global Agg GDP	0.02	0.02	-0.09	0.01	-0.18	0.03	-0.11	-0.09	-0.07	0.05	0.13	0.04	0.10	0.03	-0.57	0.21	-0.98	0.18	-0.67	-0.61	-0.68	0.41	0.97	0.49
Global Treasury	0.05	0.04	-0.06	0.03	-0.15	0.06	-0.08	-0.06	-0.04	0.08	0.16	0.08	0.31	0.26	-0.34	0.50	-0.75	0.41	-0.42	-0.37	-0.51	0.62	1.22	0.76
Global Treasury GDP	-0.02	-0.03	-0.13	-0.04	-0.22	-0.01	-0.15	-0.13	-0.11	0.01	0.09	0.01	-0.21	-0.25	-0.85	-0.02	-1.27	-0.10	-0.93	-0.88	-1.01	0.11	0.70	0.23
Global Treasury FSW	0.05	0.03	-0.07	0.02	-0.16	0.05	-0.09	-0.07	-0.05	0.07	0.15	0.07	0.20	0.17	-0.44	0.41	-0.85	0.32	-0.51	-0.47	-0.61	0.52	1.12	0.66
Global Agg Govt-Related	0.04	0.03	-0.07	0.03	-0.16	0.05	-0.09	-0.07	-0.05	0.07	0.14	0.06	0.21	0.16	-0.45	0.29	-0.85	0.31	-0.55	-0.48	-0.53	0.54	1.11	0.63
Global Agg Corp	0.03	0.02	-0.09	0.02	-0.19	0.04	-0.10	-0.09	-0.07	0.05	0.11	0.02	0.16	0.01	-0.59	0.16	-0.99	0.17	-0.71	-0.63	-0.64	0.41	0.89	0.39
Global Agg Securitized	0.02	0.01	-0.09	0.00	-0.18	0.03	-0.11	-0.09	-0.07	0.04	0.13	0.05	0.12	0.09	-0.53	0.14	-0.91	0.22	-0.64	-0.56	-0.56	0.47	1.06	0.58
Covered Bonds Global	0.11	0.11	0.00	0.10	-0.09	0.12	-0.02	0.00	0.02	0.14	0.22	0.13	0.62	0.60	-0.02	0.65	-0.41	0.75	-0.12	-0.05	-0.06	0.99	1.58	1.10
Global High Yield	0.02	0.02	-0.11	0.01	-0.20	0.04	-0.10	-0.11	-0.08	0.04	0.10	0.00	0.15	-0.14	-0.70	-0.10	-1.09	0.06	-0.88	-0.73	-0.67	0.35	0.76	0.22

Source: Barclays POINT®

## CURRENCY RETURNS

FIGURE 28

## Jul 2016 FX Spot Rate Returns

Bond Local Currency/Denomination (a)													
Reporting Currency		USD	EUR	GBP	JPY	CAD	CHF	SEK	NOK	DKK	AUD	SGD	KRW
	USD(b)		0.66%	-0.68%	0.10%	-0.41%	0.80%	-0.71%	-0.65%	0.68%	2.07%	0.21%	2.83%
	EUR	-0.65%		-1.33%	-0.55%	-1.06%	0.14%	-1.36%	-1.30%	0.02%	1.41%	-0.45%	2.16%
	GBP	0.69%	1.35%		0.79%	0.27%	1.49%	-0.03%	0.03%	1.37%	2.77%	0.90%	3.53%
	JPY	-0.10%	0.55%	-0.78%		-0.51%	0.70%	-0.81%	-0.75%	0.58%	1.97%	0.11%	2.72%
	CAD	0.41%	1.07%	-0.27%	0.51%		1.22%	-0.30%	-0.24%	1.10%	2.50%	0.62%	3.25%
	CHF	-0.80%	-0.14%	-1.47%	-0.69%	-1.20%		-1.50%	-1.44%	-0.12%	1.26%	-0.59%	2.01%
	SEK (c)	0.72%	1.38%	0.03%	0.82%	0.30%	1.52%		0.06%	1.40%	2.81%	0.93%	3.57%
	NOK	0.66%	1.32%	-0.03%	0.76%	0.24%	1.46%	-0.06%		1.34%	2.75%	0.87%	3.51%
	DKK	-0.68%	-0.02%	-1.35%	-0.58%	-1.08%	0.12%	-1.38%	-1.33%		1.38%	-0.47%	2.13%
	AUD	-2.03%	-1.39%	-2.70%	-1.93%	-2.43%	-1.25%	-2.73%	-2.67%	-1.36%		-1.83%	0.74%
	SGD	-0.21%	0.45%	-0.89%	-0.11%	-0.62%	0.59%	-0.92%	-0.86%	0.47%	1.86%		2.62%
	KRW	-2.75%	-2.11%	-3.41%	-2.65%	-3.15%	-1.97%	-3.44%	-3.39%	-2.09%	-0.73%	-2.55%	

Note: (a) Reporting Currency represents the base currency that an investor would report portfolio/index returns; Bond Local Currency/Denomination represents the currency of a bonds coupon and principal payments. (b) Example 1: A US investor that converts foreign currency returns into USD would be exposed to FX spot moves in the first row of this table. (c) Example 2: A non-US investor that owns USD-denominated bonds would be exposed to the FX spot moves in Column 1 depending on their base currency. Source: WM Reuters, Barclays Risk Analytics and Index Solutions

FIGURE 29

## Jul 2016 Trailing Seven-Month FX Spot Rate Returns

Bond Local Currency/Denomination													
Reporting Currency		USD	EUR	GBP	JPY	CAD	CHF	SEK	NOK	DKK	AUD	SGD	KRW
	USD		2.94%	-9.92%	17.38%	6.52%	3.57%	-1.20%	5.09%	3.28%	4.47%	5.63%	4.68%
	EUR	-2.86%		-12.49%	14.02%	3.48%	0.62%	-4.03%	2.08%	0.33%	1.48%	2.61%	1.69%
	GBP	11.01%	14.28%		30.30%	18.25%	14.98%	9.67%	16.66%	14.66%	15.97%	17.26%	16.20%
	JPY	-14.81%	-12.30%	-23.26%		-9.25%	-11.76%	-15.83%	-10.47%	-12.01%	-11.00%	-10.01%	-10.82%
	CAD	-6.12%	-3.36%	-15.43%	10.19%		-2.77%	-7.25%	-1.35%	-3.04%	-1.93%	-0.84%	-1.73%
	CHF	-3.45%	-0.61%	-13.03%	13.33%	2.85%		-4.61%	1.46%	-0.28%	0.86%	1.98%	1.07%
	SEK	1.22%	4.20%	-8.82%	18.81%	7.82%	4.84%		6.37%	4.54%	5.74%	6.91%	5.95%
	NOK	-4.84%	-2.04%	-14.28%	11.70%	1.37%	-1.44%	-5.99%		-1.72%	-0.59%	0.51%	-0.39%
	DKK	-3.18%	-0.33%	-12.78%	13.65%	3.14%	0.28%	-4.34%	1.75%		1.15%	2.27%	1.35%
	AUD	-4.28%	-1.46%	-13.77%	12.36%	1.97%	-0.85%	-5.43%	0.59%	-1.13%		1.11%	0.20%
	SGD	-5.33%	-2.54%	-14.72%	11.13%	0.85%	-1.94%	-6.47%	-0.51%	-2.22%	-1.10%		-0.90%
	KRW	-4.47%	-1.66%	-13.94%	12.13%	1.76%	-1.05%	-5.62%	0.39%	-1.33%	-0.20%	0.90%	

Source: WM Reuters, Barclays Risk Analytics and Index Solutions



## MONTHLY RETURN TABLES FOR BARCLAYS AGGREGATE INDICES

## US Aggregate Index

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	0.01	0.33	-0.98	-0.18	-0.11	0.21	1.35	1.53	0.88	0.66	1.16	-0.58	4.33
2007	-0.04	1.54	0.00	0.54	-0.76	-0.30	0.83	1.23	0.76	0.90	1.80	0.28	6.97
2008	1.68	0.14	0.34	-0.21	-0.73	-0.08	-0.08	0.95	-1.34	-2.36	3.25	3.73	5.24
2009	-0.88	-0.38	1.39	0.48	0.73	0.57	1.61	1.04	1.05	0.49	1.29	-1.56	5.93
2010	1.53	0.37	-0.12	1.04	0.84	1.57	1.07	1.29	0.11	0.36	-0.57	-1.08	6.54
2011	0.12	0.25	0.06	1.27	1.31	-0.29	1.59	1.46	0.73	0.11	-0.09	1.10	7.84
2012	0.88	-0.02	-0.55	1.11	0.90	0.04	1.38	0.07	0.14	0.20	0.16	-0.14	4.21
2013	-0.70	0.50	0.08	1.01	-1.78	-1.55	0.14	-0.51	0.95	0.81	-0.37	-0.57	-2.02
2014	1.48	0.53	-0.17	0.84	1.14	0.05	-0.25	1.10	-0.68	0.98	0.71	0.09	5.97
2015	2.10	-0.94	0.46	-0.36	-0.24	-1.09	0.70	-0.14	0.68	0.02	-0.26	-0.32	0.55
2016	1.38	0.71	0.92	0.38	0.03	1.80	0.63						5.98

Source: Barclays POINT®

## Euro Aggregate Index

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-0.60	0.14	-1.28	-0.66	0.31	-0.33	1.06	1.09	0.51	0.28	0.53	-1.02	-0.03
2007	-0.34	0.99	-0.37	-0.09	-0.99	-0.52	1.15	0.83	-0.01	0.73	0.43	-0.35	1.45
2008	2.22	0.41	-0.77	-0.39	-1.10	-1.07	1.67	1.11	-0.48	0.44	3.08	1.03	6.22
2009	-0.49	0.43	0.77	0.90	-0.23	1.30	2.05	0.74	0.89	0.27	0.71	-0.57	6.95
2010	0.86	0.99	0.70	-0.22	0.91	-0.40	0.78	2.42	-0.99	-0.39	-1.98	-0.44	2.18
2011	-0.52	0.24	-0.53	0.70	0.97	-0.32	0.56	1.75	0.38	-0.77	-2.32	3.16	3.24
2012	1.98	1.62	0.36	0.00	1.01	-0.71	1.81	0.83	1.00	0.79	1.19	0.81	11.19
2013	-0.67	0.59	0.61	2.08	-0.93	-1.51	0.70	-0.44	0.74	1.25	0.32	-0.55	2.17
2014	1.85	0.58	0.73	0.85	0.97	0.92	0.73	1.62	0.15	0.32	1.04	0.83	11.10
2015	1.74	0.63	0.88	-1.06	-1.15	-2.20	1.82	-0.84	0.73	0.98	0.48	-0.91	1.00
2016	1.54	0.84	0.54	-0.70	0.82	1.75	0.95						5.85

Source: Barclays POINT®

## Sterling Aggregate Index

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	0.69	0.11	-1.47	-1.26	0.66	-0.63	1.25	1.01	0.39	0.88	0.16	-1.14	8.31
2007	-1.23	1.78	-1.08	-0.23	-0.88	-1.31	1.70	1.07	0.21	0.92	0.88	1.59	6.71
2008	-0.16	-0.67	0.04	-0.51	-1.13	-0.80	2.03	1.86	-2.41	-1.42	3.43	4.30	3.49
2009	-4.31	0.83	1.15	-0.53	0.47	1.72	0.39	4.30	0.67	0.00	1.00	-2.22	9.25
2010	1.40	-0.36	1.27	0.60	1.61	1.33	0.19	4.46	-0.47	-1.03	-1.24	-0.04	4.75
2011	-1.43	0.80	0.44	2.03	1.07	-0.76	3.24	0.58	2.52	1.46	0.96	1.89	9.18
2012	0.97	-0.76	-0.61	0.24	3.82	-0.62	2.68	0.09	-0.22	-0.28	0.91	-0.27	-1.02
2013	-1.68	0.92	1.74	1.63	-2.32	-2.90	1.19	-1.01	0.85	1.06	-0.93	-1.12	-2.68
2014	2.11	0.21	-0.03	0.87	1.06	-0.48	0.92	3.33	-0.64	1.17	2.98	1.65	13.87
2015	4.85	-3.94	1.87	-2.11	0.43	-2.09	1.65	-0.01	0.91	-0.85	1.11	-1.06	0.47
2016	3.09	1.00	0.50	-0.84	1.67	5.03	2.70						13.78

Source: Barclays POINT®

## Japanese Aggregate Index

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-0.27	-0.32	-0.69	-0.54	0.38	-0.32	0.08	1.68	0.02	-0.12	0.33	0.10	0.30
2007	0.15	0.32	0.10	0.16	-0.52	-0.48	0.54	1.06	-0.04	0.49	0.64	0.19	2.62
2008	0.47	0.48	0.37	-1.58	-0.75	1.04	0.34	0.90	-0.32	0.44	0.32	1.67	3.41
2009	-0.55	0.23	-0.31	-0.19	-0.18	0.88	-0.14	0.63	0.30	-0.42	0.82	0.13	1.19
2010	-0.01	0.11	-0.18	0.81	0.27	1.09	0.32	0.65	0.08	-0.32	-1.09	0.63	2.37
2011	-0.54	-0.14	0.08	0.30	0.33	0.34	0.33	0.30	0.40	-0.14	-0.04	0.61	1.84
2012	0.14	0.10	0.05	0.52	0.53	-0.04	0.37	-0.14	0.25	-0.04	0.27	-0.30	1.73
2013	0.27	0.81	1.11	-0.50	-1.18	0.04	0.27	0.45	0.51	0.59	0.09	-0.52	1.94
2014	0.78	0.23	-0.24	0.15	0.30	0.28	0.16	0.33	0.06	0.47	0.62	1.05	4.26
2015	0.01	-0.56	0.06	0.33	-0.48	-0.05	0.29	0.17	0.32	0.39	-0.02	0.63	1.09
2016	1.31	1.74	0.87	0.92	0.37	1.26	-0.84						5.73

Source: Barclays POINT®

## Canadian Dollar Aggregate

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-0.78	0.41	-0.19	-1.04	0.37	-0.47	2.16	1.74	1.09	0.40	1.12	-0.81	4.01
2007	-0.20	1.34	-0.30	0.08	-1.48	-0.35	0.15	0.90	0.82	0.63	1.65	0.68	3.96
2008	0.50	1.31	1.13	-0.55	-0.14	0.02	0.86	0.76	-1.89	-1.02	2.79	3.24	7.10
2009	-1.17	0.35	1.89	-0.43	-0.58	1.36	0.61	0.91	0.96	0.03	1.22	-1.52	3.62
2010	1.89	0.05	-0.64	-0.08	1.41	1.64	0.52	1.99	0.79	0.07	-1.10	0.20	6.88
2011	-0.74	0.29	-0.06	0.83	1.61	-0.08	2.42	1.06	2.24	-0.39	0.53	1.93	10.00
2012	0.46	-0.47	-0.37	0.08	2.00	-0.03	0.81	-0.15	0.79	-0.29	0.59	-0.18	3.27
2013	-0.78	0.92	0.46	1.13	-1.56	-2.02	0.16	-0.65	0.52	0.98	-0.22	-0.49	-1.59
2014	2.66	0.35	-0.24	0.52	1.31	0.23	0.70	1.12	-0.73	0.58	1.55	0.66	9.03
2015	4.80	-0.13	-0.36	-1.40	0.16	-0.56	1.50	-1.03	-0.25	-0.26	0.05	1.20	3.65
2016	0.38	0.28	0.63	-0.05	0.93	1.81	0.92						4.99

Source: Barclays POINT®

## Swiss Franc Aggregate Index

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-0.35	-0.06	-1.11	-0.92	0.25	-0.40	0.81	1.25	0.57	0.26	0.68	-0.81	0.13
2007	-0.46	0.62	-0.38	-0.22	-1.21	-0.91	0.52	0.87	0.17	0.58	0.92	-0.75	-0.29
2008	1.15	-0.17	-0.52	-0.58	-0.18	-0.34	1.62	0.97	-0.04	-1.24	4.23	-0.90	3.96
2009	0.73	-0.70	-0.45	0.70	0.11	1.14	1.99	0.79	0.45	0.89	0.91	0.20	6.95
2010	0.73	0.76	0.12	0.26	1.16	0.21	0.29	1.48	-0.60	0.03	-0.34	-0.57	3.56
2011	-0.16	0.05	-0.25	-0.11	1.41	0.45	1.38	0.65	0.67	-0.02	-0.49	1.03	4.68
2012	0.79	0.57	-0.03	0.27	0.91	-0.10	1.04	0.38	0.07	0.31	0.21	-0.05	4.46
2013	-0.93	0.67	0.08	0.70	-0.62	-1.49	0.39	-0.12	0.42	0.40	0.28	-0.90	-1.14
2014	1.59	0.00	0.27	0.61	0.61	0.26	0.36	0.84	-0.25	0.32	0.86	0.77	6.39
2015	1.97	-0.35	0.33	-0.20	0.28	-0.95	0.61	0.23	-0.03	0.89	0.66	-1.59	1.78
2016	1.67	1.16	-0.64	-0.24	0.33	1.43	-0.12						3.62

Source: Barclays POINT®

**EM USD Aggregate Index**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	1.24	2.19	-1.78	-0.07	-2.00	-0.02	3.21	2.46	0.58	1.79	1.16	0.90	9.96
2007	-0.24	1.58	0.81	1.00	-0.39	-1.73	-1.21	0.95	2.31	2.06	-0.66	0.63	5.16
2008	0.59	-0.18	-0.20	1.21	0.38	-1.98	0.66	0.48	-6.87	-19.45	3.58	8.69	-14.75
2009	2.16	-1.55	4.15	5.61	4.53	1.82	3.46	2.93	4.55	0.55	1.62	0.20	34.23
2010	0.78	0.80	3.00	1.05	-2.53	2.51	4.16	2.01	1.76	1.67	-2.35	-0.51	12.84
2011	-0.28	0.48	1.37	1.37	1.30	0.67	1.95	-0.29	-4.49	4.77	-1.26	1.44	6.97
2012	2.34	2.73	0.35	1.36	-2.68	2.75	3.82	1.22	1.59	1.23	1.03	1.00	17.95
2013	-0.66	-0.25	-0.57	2.01	-2.65	-4.47	1.11	-1.96	2.26	2.14	-1.25	0.31	-4.12
2014	-0.28	2.31	0.78	1.10	2.65	0.69	-0.12	0.83	-1.48	1.20	-0.38	-2.52	4.76
2015	0.52	1.18	0.58	1.82	0.06	-1.42	0.13	-1.27	-1.26	2.69	-0.27	-1.40	1.29
2016	-0.03	1.44	3.07	1.76	-0.01	2.86	1.52						11.06

Source: Barclays POINT®

**Global Aggregate Index, USD Unhedged**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	1.26	-0.35	-0.99	1.89	1.29	-0.79	1.00	1.16	-0.01	0.97	2.44	-1.33	6.64
2007	-0.98	2.06	0.24	1.13	-1.56	-0.44	2.03	1.23	2.24	1.63	1.91	-0.30	9.48
2008	2.78	1.67	2.04	-1.91	-1.11	0.09	0.14	-1.65	-2.35	-3.69	2.89	6.21	4.79
2009	-3.27	-2.23	2.30	0.90	3.57	0.41	2.21	1.76	2.14	0.47	2.55	-3.76	6.93
2010	0.41	0.07	-0.76	0.02	-1.56	1.53	3.40	1.39	2.35	1.26	-3.81	1.31	5.54
2011	0.18	0.59	0.47	3.10	-0.08	0.08	2.06	1.27	-2.31	1.33	-1.75	0.67	5.64
2012	1.67	-0.07	-0.72	1.18	-1.03	0.48	1.16	0.86	1.22	-0.14	-0.01	-0.33	4.32
2013	-0.91	-0.95	-0.25	1.39	-2.97	-1.18	1.26	-0.52	2.06	0.98	-0.82	-0.60	-2.60
2014	1.06	1.40	-0.07	1.13	0.59	0.73	-0.90	0.55	-2.79	0.01	-0.37	-0.69	0.59
2015	-0.16	-0.81	-0.96	1.06	-1.79	-0.44	0.22	0.12	0.51	0.21	-1.66	0.53	-3.15
2016	0.87	2.23	2.70	1.33	-1.34	2.92	0.75						9.78

Source: Barclays POINT®

**Global Aggregate Index, USD Hedged**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-0.08	0.29	-0.87	-0.35	0.32	-0.01	1.18	1.50	0.72	0.54	0.87	-0.48	3.64
2007	-0.04	1.26	-0.04	0.31	-0.67	-0.37	1.01	1.14	0.44	0.84	1.12	0.22	5.33
2008	1.65	0.29	-0.06	-0.54	-0.92	-0.32	0.74	0.99	-0.91	-0.66	2.71	2.54	5.58
2009	-0.86	-0.01	0.87	0.42	0.16	0.92	1.33	1.03	0.84	0.21	1.01	-0.92	5.09
2010	1.02	0.47	0.19	0.56	0.77	0.91	0.81	1.66	-0.22	-0.09	-1.08	-0.47	4.61
2011	-0.31	0.18	-0.08	0.91	0.97	-0.20	1.12	1.22	0.60	-0.10	-0.54	1.52	5.40
2012	0.99	0.36	-0.14	0.62	1.04	-0.16	1.36	0.24	0.40	0.28	0.50	0.10	5.72
2013	-0.55	0.61	0.52	1.10	-1.43	-1.39	0.40	-0.38	0.81	0.90	-0.14	-0.54	-0.14
2014	1.44	0.49	0.10	0.69	0.96	0.34	0.22	1.22	-0.29	0.73	0.94	0.52	7.59
2015	1.86	-0.59	0.57	-0.56	-0.41	-1.24	0.99	-0.27	0.59	0.32	0.05	-0.27	1.02
2016	1.46	0.96	0.82	0.17	0.42	1.90	0.60						6.50

Source: Barclays POINT®

**Global Aggregate Index, EUR Unhedged**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-1.64	1.49	-2.46	-2.11	-0.67	-0.34	1.19	0.85	1.04	0.21	-1.37	-0.81	-4.61
2007	0.48	0.40	-0.53	-1.37	-0.16	-0.80	0.67	1.65	-1.99	-0.10	0.45	0.10	-1.27
2008	1.49	-0.84	-2.24	-0.17	-0.92	-1.28	1.12	4.23	2.35	6.69	2.82	-3.04	10.22
2009	4.92	-1.35	-2.14	1.10	-3.04	1.33	1.13	0.53	0.27	-0.47	0.78	0.70	3.60
2010	3.65	1.93	0.10	1.78	6.67	1.71	-2.78	3.93	-4.72	-0.54	2.71	-1.70	12.88
2011	-1.97	-0.15	-2.21	-1.38	3.12	-0.77	2.98	1.07	4.83	-2.53	1.81	4.39	9.17
2012	0.83	-2.21	-0.27	1.80	5.95	-2.10	4.24	-1.45	-0.83	-0.86	-0.38	-1.68	2.72
2013	-3.76	2.84	1.55	-1.25	-1.30	-1.48	-0.88	0.17	-0.59	0.55	-0.97	-1.78	-6.81
2014	3.26	-0.99	0.14	0.53	2.21	0.39	1.41	2.14	1.36	0.84	0.13	2.32	14.54
2015	7.06	-0.21	3.43	-3.13	0.38	-2.03	1.07	-1.28	0.89	1.26	2.86	-2.26	7.88
2016	1.26	1.80	-2.07	0.82	1.50	3.13	0.10						6.64

Source: Barclays POINT®

**Global Aggregate Index, EUR Hedged**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-0.23	0.10	-1.02	-0.50	0.13	-0.20	0.98	1.30	0.54	0.37	0.69	-0.63	1.48
2007	-0.20	1.11	-0.17	0.19	-0.82	-0.48	0.90	1.03	0.31	0.76	1.06	0.15	3.89
2008	1.58	0.37	0.04	-0.45	-0.80	-0.17	0.91	1.20	-0.81	-1.12	2.85	2.38	6.04
2009	-0.81	0.03	0.87	0.43	0.18	0.95	1.32	1.01	0.83	0.21	1.00	-0.96	5.14
2010	1.05	0.48	0.20	0.56	0.81	0.88	0.76	1.70	-0.19	-0.06	-1.12	-0.44	4.70
2011	-0.29	0.22	-0.03	0.93	1.08	-0.12	1.22	1.29	0.67	-0.06	-0.54	1.54	6.03
2012	0.96	0.35	-0.16	0.61	1.09	-0.17	1.37	0.20	0.36	0.25	0.48	0.07	5.53
2013	-0.56	0.61	0.50	1.05	-1.47	-1.40	0.38	-0.39	0.78	0.89	-0.14	-0.53	-0.33
2014	1.47	0.48	0.10	0.70	0.99	0.35	0.21	1.23	-0.33	0.71	0.92	0.51	7.57
2015	1.96	-0.62	0.55	-0.57	-0.46	-1.25	0.96	-0.30	0.55	0.28	0.00	-0.37	0.68
2016	1.39	0.89	0.69	0.08	0.34	1.79	0.48						5.80

Source: Barclays POINT®

**Global Aggregate Index, GBP Unhedged**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-2.19	1.13	-0.04	-2.77	-1.61	0.37	0.05	-0.71	1.82	-1.11	-0.68	-0.83	-6.46
2007	-1.00	1.94	0.15	-0.84	-0.48	-1.85	0.74	1.98	1.23	-0.33	2.96	2.99	7.62
2008	2.91	1.61	2.13	-1.56	-0.89	-0.62	0.61	6.81	-0.08	6.25	8.34	13.36	45.08
2009	-3.54	-1.11	1.73	-2.40	-4.83	-1.68	1.54	3.51	4.08	-2.52	3.00	-2.20	-4.80
2010	1.19	5.33	-0.40	-0.88	3.70	-1.40	-1.22	3.32	-0.18	-0.20	-1.25	0.77	8.86
2011	-2.08	-0.94	1.95	-0.92	1.26	2.60	-0.18	2.10	2.11	-2.20	0.83	1.88	6.43
2012	0.13	-1.28	-0.74	-0.45	4.42	-1.40	1.26	-0.50	-0.44	0.09	0.51	-1.73	-0.26
2013	1.59	3.46	-0.29	-1.08	-0.39	-1.22	1.30	-2.51	-2.51	1.79	-2.72	-1.69	-4.41
2014	1.84	-0.56	0.45	-0.15	1.26	-1.19	0.36	2.22	-0.42	1.35	1.79	-0.26	6.84
2015	3.65	-3.60	3.10	-2.37	-1.09	-3.40	1.01	1.58	2.05	-1.71	0.90	2.67	2.45
2016	4.81	4.05	-0.42	-0.58	-0.70	12.06	1.44						21.87

Source: Barclays POINT®

**Global Aggregate Index, GBP Hedged**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-0.05	0.28	-0.90	-0.34	0.29	-0.06	1.11	1.42	0.69	0.50	0.83	-0.50	3.30
2007	-0.06	1.26	-0.04	0.32	-0.67	-0.34	1.04	1.19	0.50	0.90	1.23	0.31	5.76
2008	1.74	0.47	0.14	-0.33	-0.71	-0.09	0.99	1.28	-0.71	-1.05	3.03	2.68	7.59
2009	-0.77	0.02	0.88	0.41	0.18	0.91	1.33	1.05	0.86	0.22	1.03	-0.92	5.30
2010	1.05	0.51	0.22	0.57	0.82	0.89	0.79	1.70	-0.19	-0.06	-1.09	-0.45	4.82
2011	-0.27	0.20	-0.05	0.91	1.02	-0.17	1.14	1.26	0.65	-0.06	-0.53	1.57	5.80
2012	1.00	0.38	-0.12	0.63	1.11	-0.14	1.36	0.24	0.40	0.29	0.52	0.11	5.93
2013	-0.56	0.64	0.53	1.09	-1.44	-1.37	0.42	-0.35	0.81	0.93	-0.11	-0.51	0.04
2014	1.47	0.51	0.12	0.71	0.99	0.36	0.24	1.26	-0.28	0.76	0.98	0.54	7.92
2015	1.96	-0.55	0.62	-0.51	-0.40	-1.17	1.02	-0.25	0.62	0.33	0.06	-0.30	1.39
2016	1.50	0.97	0.79	0.16	0.42	2.04	0.58						6.63

Source: Barclays POINT®

**Global Aggregate Index, JPY Unhedged**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	0.43	-1.41	0.86	-1.43	-0.52	1.16	1.10	3.67	0.66	0.19	1.12	1.66	7.66
2007	0.52	-0.03	-0.11	2.35	0.34	0.93	-1.63	-1.45	1.45	1.87	-1.94	0.41	2.64
2008	-2.18	-0.45	-2.44	2.99	-0.11	0.50	2.10	-1.25	-4.48	-10.78	-0.36	1.09	-14.97
2009	-4.17	6.51	3.27	0.51	0.48	1.50	0.85	-0.84	-1.42	1.58	-2.41	4.00	9.81
2010	-2.22	-1.90	4.35	0.63	-4.68	-1.31	1.26	-1.76	1.82	-2.37	0.04	-1.92	-8.05
2011	1.20	0.59	1.64	0.94	0.04	-0.52	-2.45	0.33	-1.53	2.51	-2.18	-0.22	0.22
2012	0.76	6.08	0.94	-1.83	-2.80	2.24	-0.99	1.12	0.57	2.59	3.17	4.50	17.23
2013	4.59	0.14	1.65	5.05	0.58	-2.79	0.26	-0.77	2.07	0.97	3.48	2.06	18.40
2014	-1.94	1.48	0.83	0.31	0.19	0.29	0.60	1.57	2.65	2.21	5.48	0.32	14.74
2015	-2.18	0.95	-0.65	0.85	1.84	-1.83	1.48	-2.07	-0.67	0.97	0.47	-1.90	-2.83
2016	1.51	-4.69	2.27	-3.54	2.26	-4.80	0.65						-6.47

Source: Barclays POINT®

**Global Aggregate Index, JPY Hedged**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2006	-0.44	-0.09	-1.28	-0.72	-0.10	-0.43	0.75	1.10	0.31	0.12	0.45	-0.93	-1.29
2007	-0.46	0.86	-0.43	-0.13	-1.12	-0.79	0.59	0.70	0.02	0.47	0.74	-0.17	0.23
2008	1.25	0.08	-0.24	-0.78	-1.13	-0.48	0.57	0.82	-1.04	-1.08	2.53	2.27	2.70
2009	-0.91	-0.08	0.83	0.38	0.12	0.89	1.28	0.98	0.80	0.19	0.96	-1.03	4.45
2010	0.99	0.46	0.18	0.54	0.73	0.85	0.75	1.59	-0.25	-0.11	-1.15	-0.50	4.13
2011	-0.35	0.16	-0.10	0.87	0.96	-0.21	1.07	1.17	0.58	-0.14	-0.59	1.42	4.92
2012	0.93	0.34	-0.17	0.58	1.00	-0.20	1.28	0.21	0.37	0.26	0.49	0.06	5.27
2013	-0.61	0.59	0.50	1.11	-1.50	-1.38	0.38	-0.39	0.80	0.88	-0.16	-0.59	-0.40
2014	1.38	0.48	0.08	0.67	0.94	0.32	0.19	1.21	-0.34	0.72	0.97	0.46	7.30
2015	1.80	-0.63	0.53	-0.61	-0.46	-1.26	0.96	-0.29	0.54	0.29	0.02	-0.39	0.47
2016	1.40	0.85	0.71	0.07	0.36	1.65	0.50						5.68

Source: Barclays POINT®

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