

#2017-September

Global Stocks, Bonds, and Consumers **Leading Indicators (SBCLI©)**

Tables, Charts, and Commentary for 17 Trillion Dollar Economies

***SBCLI forecasts strong economies in Europe, Asia and America.
Italy, Turkey, Brazil, Canada & Mexico improve SBCLI scores.***

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August 28, 2017

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*I thank Song Xiao of Duke for excellent research assistance. This research began in 2011-2013 at MIT Sloan with the academic paper entitled "Consumption As A Leading Indicator," followed by the applied paper "A Stocks, Bonds, Consumers Leading Indicator," which can be found at dougbreeden.net. My Duke article on "Consumer Signals" was published in the [Journal of Asset Management](#), July 2016.

Summary of Breeden's Stocks, Bonds, and Consumers

Leading Indicators (SBCLI©) on August 24, 2017

- In the last two months, stock prices were mixed. Brazil, Turkey and Russia showed sharp gains, and Italy did well. But most major economies treaded water at high levels in stock prices, given some weaker economic data and worries of nuclear confrontation of the USA and North Korea.
- In bond markets, interest rates declined with conflict fears and a flight to quality. Slopes flattened in major economies, giving negative bond market signals. Sovereign credit spreads widened in China and India, negative signals, perhaps also due to such fears. The sovereign credit spread improved in Brazil, supporting its improving stock market and outlook.
- Consumer signals weakened a bit on average, as first half data for 2017 came in with USA and France consumption growth lagging stock market gains. However, consumer signals were strong and improving for Canada, Japan, and Germany. Retail sales growth in China is well above GDP growth, giving a positive consumer signal in China, partially offsetting the negative sovereign credit spread signal there.
- Overall, total SBCLI indicators are quite strong globally, foretelling continued strong global economic growth. Signals for above-trend growth in the coming year are strongest in Italy, Turkey, Canada, USA, Spain, Brazil, UK, Germany, S. Korea, Australia, Indonesia, Mexico, France and Japan, in order.
- SBCLI readings predict growth deviations from trend, with positive numbers normally indicating above-trend growth in the next 2 and 4 quarters, and negative readings indicating below trend growth or recession. For advanced economies, every 1-point move in SBCLI typically leads to growth of 0.5% above trend in real GDP, and 1.0% above trend in industrial production, and a decline of 0.3% in the unemployment rate (when not at full employment). Emerging markets sensitivities are higher at 0.75% and 1.1% for GDP and IP.

Summary of Components of Breeden's Stocks, Bonds, Consumers Leading Indexes for 17 TDEs

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	GDP Trend		GDP			Stock Market Z-Scores (x)			Bond Market Z-Scores			Consumer Z-Scores			Total SBCLI		
	Growth	Sensitivity															
	10 Yr, Pct	to SBCLI Pt	12/30/16	7/7/17	8/24/17	12/30/16	7/7/17	8/24/17	2016-Q4	2017-Q1	2017-Q2	12/30/16	7/7/17	8/24/17			
	United States	1.4	0.50	0.8	2.5	2.6	0.3	-0.1	-0.3	1.8	0.5	0.5	3.0	2.9	2.8		
Canada	1.7	0.41	1.5	1.2	1.3	-0.2	-0.3	-0.3	1.0	1.1	2.0	2.3	2.9	3.0			
Brazil	3.0	1.03	1.6	2.2	4.3	-0.6	-0.1	0.1	-2.3	-2.5	-1.9	-1.2	0.2	2.5			
Mexico	2.3	0.42	-0.5	0.9	1.3	0.0	0.3	0.2	0.7	0.2	0.1	0.2	1.2	1.6			
France	0.7	0.36	1.4	2.4	2.3	-0.3	-0.3	-0.6	1.0	0.8	-0.1	2.1	1.9	1.6			
Germany	1.4	0.66	1.5	2.8	2.5	-0.5	-0.1	-0.6	0.2	-0.4	0.5	1.2	3.1	2.4			
Italy	-0.6	0.53	0.8	2.0	2.4	0.0	0.0	0.0	1.1	1.3	1.6	1.9	3.6	4.0			
Spain	0.3	0.91	0.5	2.1	1.9	0.0	0.0	0.0	1.7	1.1	0.6	2.2	2.7	2.6			
United Kingdom	1.0	0.46	2.6	3.3	3.5	0.3	0.2	-0.1	0.9	0.3	-0.3	3.8	3.2	3.1			
Russia	2.4	1.62	1.7	0.0	0.6	-1.2	-1.0	-1.0	-1.0	-0.8	-0.3	-0.5	-1.3	-0.8			
Turkey	3.8	0.76	-0.6	2.0	3.1	0.2	0.3	0.3	0.1	0.0	-0.1	-0.4	2.2	3.2			
Japan	0.5	0.34	1.5	2.1	1.7	-1.1	-1.4	-1.5	0.2	-0.1	0.7	0.7	1.3	0.9			
Australia	3.3	0.29	0.9	1.0	1.2	0.7	1.0	1.2	0.1	0.2	-0.4	1.7	1.6	2.0			
South Korea	2.7	0.07	0.0	2.5	2.4	-0.6	0.1	0.1	-0.4	-0.6	-0.5	-0.9	2.1	2.0			
China*	7.0	0.72	0.2	0.3	0.4	0.1	-0.8	-1.2	0.5	0.4	0.6	0.8	0.1	-0.2			
India	7.4	0.34	0.0	1.8	1.9	-0.9	-1.0	-1.1	-1.5	-1.2	-1.3	-2.4	-0.5	-0.5			
Indonesia	5.6	0.40	0.6	1.7	1.9	0.4	0.6	0.6	-0.3	-0.6	-0.7	0.7	1.6	1.8			

Stocks: *In July and August 2017, Stocks gained strongly in Brazil, Turkey, and Russia. Mexico and Italy also outperformed, with 3.5% gains in the last two months. Major European and American economies held their gains pretty well, with just 2% to 3% drops in Germany and Japan.*

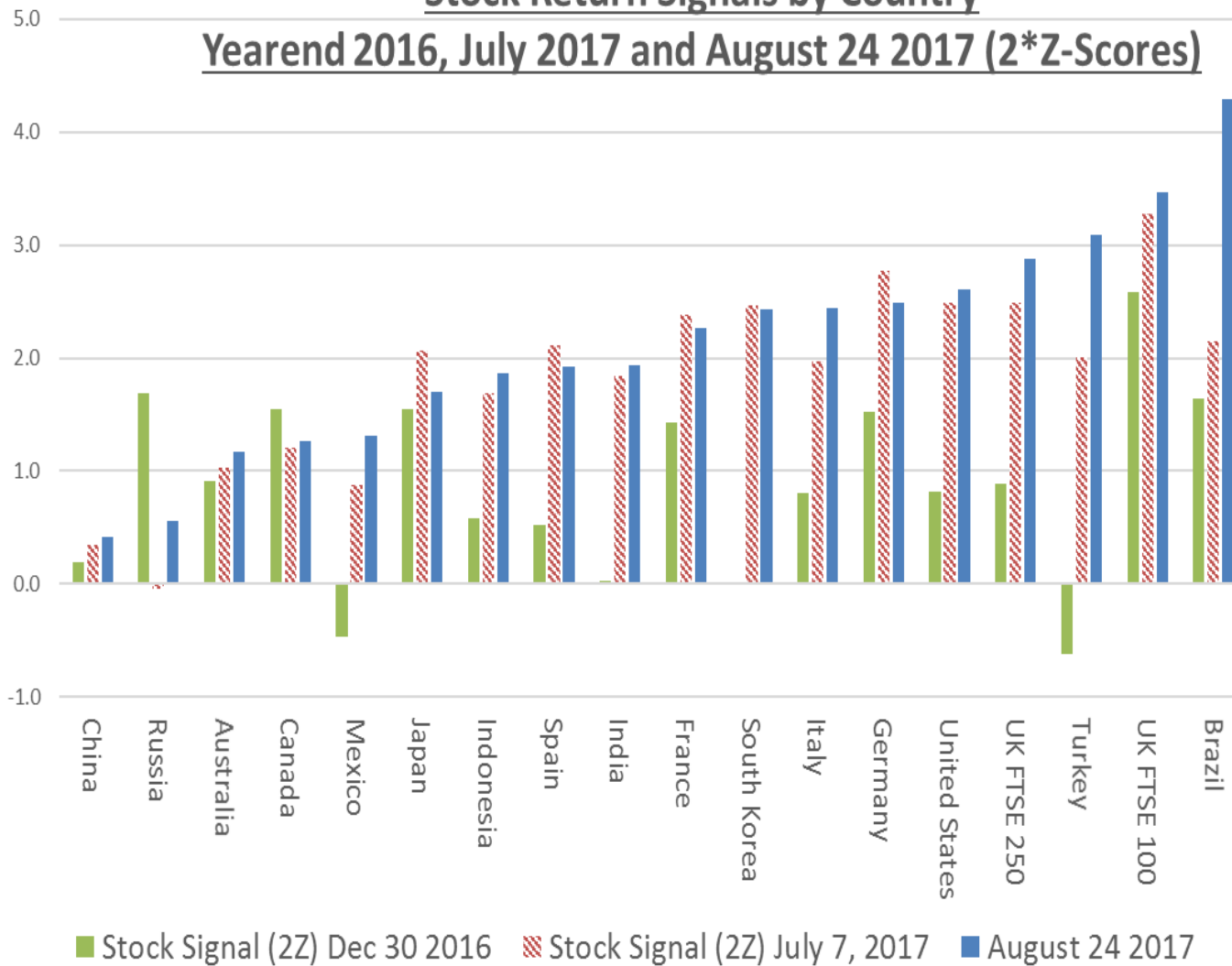
Global Stock Market Performance and SBCLI as of August 24 2017: Strong Economic Growth in Europe, America, Asia

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Major Stock Price Indexes:		Americas				Europe							AustralAsia					UK FTSE250		
		United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	S.Korea	China	India	Indonesia	United Kingdom	
Year End 2015	12/31/2015	2,044	13,010	43,350	42,978	4,637	10,743	21,418	9,544	6,242	757	71,727	19,034	5,296	1,961	3,539	26,118	4,593	17,122	
February 2016 Low	2/11/2016	1,829	12,087	39,318	42,359	3,897	8,753	15,773	7,746	5,537	671	70,942	14,953	4,765	1,835	2,746	22,952	4,714	15,179	
Brexit Voting Day Jun 23 2016	6/23/2016	2,113	14,131	51,560	46,146	4,466	10,257	17,966	8,885	6,338	941	77,990	16,238	5,281	1,987	2,892	27,002	4,874	17,334	
Post-Brexit Low 6/27/2016	6/27/2016	2,001	13,690	49,246	44,282	3,985	9,269	15,104	7,646	5,982	889	75,161	15,309	5,137	1,927	2,896	26,403	4,836	14,968	
Recent data: Pre U.S. Election	11/4/2016	2,085	14,509	61,598	46,695	4,377	10,259	16,319	8,792	6,693	971	74,267	16,905	5,181	1,982	3,125	27,274	5,363	17,271	
Year End 2016: Trump elected	12/30/2016	2,239	15,288	60,227	45,643	4,862	11,481	19,235	9,352	7,143	1,152	78,139	19,114	5,666	2,026	3,104	26,626	5,297	18,077	
Recent Data: Global Strength	7/7/2017	2,425	15,027	62,322	50,059	5,145	12,389	21,015	10,489	7,351	995	100,084	19,929	5,704	2,380	3,218	31,361	5,815	19,395	
Most Recent Data: Global strength	8/24/2017	2,439	15,076	71,133	51,470	5,113	12,181	21,730	10,357	7,407	1,050	109,154	19,354	5,745	2,376	3,272	31,596	5,894	19,710	
Cumulative Percentage Changes in Stock Prices from Yearend 2015, Dec 30 2015																				
Brexit voting day vs 12/31/15	6/23/2016	3.4%	8.6%	18.9%	7.4%	-3.7%	-4.5%	-16.1%	-6.9%	1.5%	24.3%	8.7%	-14.7%	-0.3%	1.3%	-18.3%	3.4%	6.1%	1.2%	
PostBrexit Low	6/27/2016	-2.1%	5.2%	13.6%	3.0%	-14.1%	-13.7%	-29.5%	-19.9%	-4.2%	17.4%	4.8%	-19.6%	-3.0%	-1.8%	-18.2%	1.1%	5.3%	-12.6%	
Recent data: Pre U.S. Election	11/4/2016	2.0%	11.5%	42.1%	8.6%	-5.6%	-4.5%	-23.8%	-7.9%	7.2%	28.3%	3.5%	-11.2%	-2.2%	1.1%	-11.7%	4.4%	16.8%	0.9%	
Year End 2016: Trump elected	12/30/2016	9.5%	17.5%	38.9%	6.2%	4.9%	6.9%	-10.2%	-2.0%	14.4%	52.2%	8.9%	0.4%	7.0%	3.3%	-12.3%	1.9%	15.3%	5.6%	
Recent Data: Global Strength	7/7/2017	18.7%	15.5%	43.8%	16.5%	11.0%	15.3%	-1.9%	9.9%	17.8%	31.5%	39.5%	4.7%	7.7%	21.3%	-9.1%	20.1%	26.6%	13.3%	
Most Recent Data: Global strength	8/24/2017	19.3%	15.9%	64.1%	19.8%	10.3%	13.4%	1.5%	8.5%	18.7%	38.7%	52.2%	1.7%	8.5%	21.1%	-7.6%	21.0%	28.3%	15.1%	

Stock Return Signals by Country Yearend 2016, July 2017 and August 24 2017 (2*Z-Scores)



Stock return signals are positive around the world and in all 17 trillion dollar economies.

Stock signals are strongest in Brazil, the UK, Turkey and the USA. Brazil appears to be coming out of its deep recession. UK stocks are benefiting from a weak pound. Stocks throughout advanced Europe and America have solid gains. China's stock signal is muted, and Russia's has been volatile, both up and down.

Bonds: Term structure slopes flattened in Europe and the USA, as rates dropped with slightly weaker data and fears of nuclear conflict between the North Korea and the USA, giving a flight to quality. Flatter slopes are negative growth signals, offsetting strong stocks.

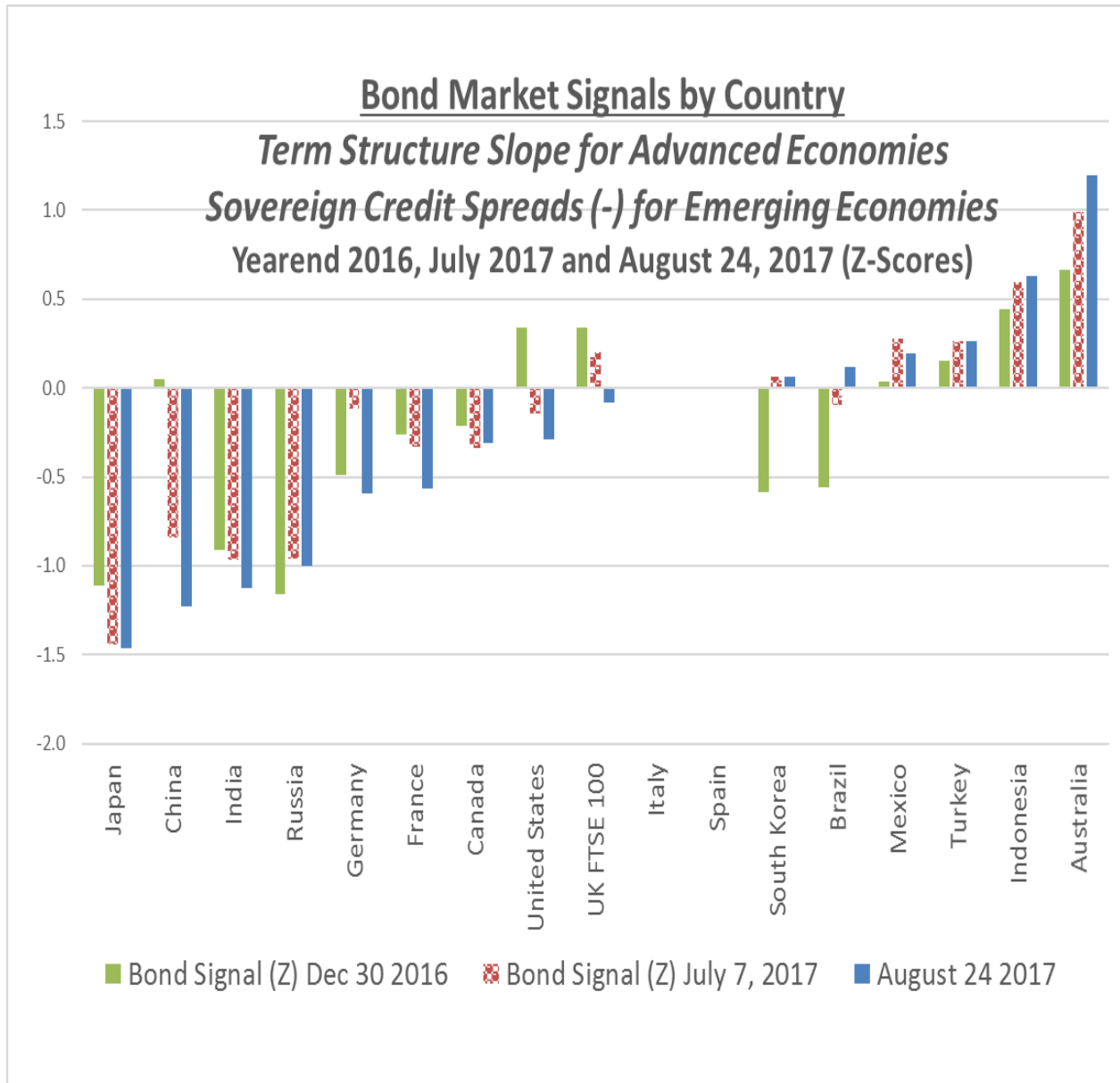
Sovereign credit spreads narrowed optimistically in Brazil, amplifying the stock signal. Sovereign spreads widened in China and India, perhaps given nuclear conflict concerns. This has been a negative predictor for China's growth, more significant than stock moves.

Global Bond Market Signals: Term Structure Slopes for Advanced Economies; Sovereign Credit Spreads for Emergings

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		Americas				Europe							AustralAsia						United Kingdom
		United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	South Korea	China	India	Indonesia	United Kingdom
Country Slopes and Credit Spreads		Slope	Slope	Credit	Credit	Slope	Slope	Slope	Slope	Slope	Credit	Credit	Slope	Slope	Slope	Credit	Credit	Credit	Slope
Year End 2015	1/4/2016	2.08	0.91	14.16	3.99	1.39	1.15	1.74	1.90	1.37	7.35	8.54	0.28	0.78	0.54	0.61	5.40	2.41	1.37
February 2016 Low	2/11/2016	1.38	0.59	14.67	4.44	0.98	0.68	1.77	2.04	0.83	8.64	8.85	0.15	0.19	0.31	1.21	5.96	2.92	0.83
Brexit Voting Day Jun 23 2016	6/23/2016	1.46	0.78	10.68	4.31	0.97	0.70	1.54	1.59	0.93	6.81	7.50	0.10	0.48	0.18	1.18	5.68	2.10	0.93
Post-Brexit Low 6/27/2016	6/27/2016	1.19	0.60	10.81	4.56	0.83	0.55	1.68	1.60	0.59	7.09	7.89	0.05	0.30	0.03	1.40	5.97	2.39	0.59
Recent data: Pre U.S. Election	11/4/2016	1.41	0.72	9.73	4.53	1.20	1.02	2.09	1.70	0.96	6.79	8.40	0.26	0.60	0.23	0.95	5.06	1.84	0.96
Year End 2016: Trump elected	12/30/2016	1.95	1.27	8.93	4.97	1.59	1.19	2.31	1.87	1.42	5.92	8.64	0.46	0.60	0.23	0.59	4.07	1.88	1.42
Recent Data: Global Strength	7/7/2017	1.35	1.14	8.20	4.44	1.53	1.49	2.73	2.25	1.25	5.50	8.21	0.19	0.85	0.77	1.20	4.15	1.44	1.25
Most Recent Data: Global strength	8/24/2017	1.18	1.17	7.88	4.63	1.33	1.11	2.53	2.04	0.86	5.59	8.21	0.17	1.02	0.77	1.47	4.34	1.34	0.86
Cumulative Changes in Bond Market Yield Spreads from Yearend 2015, Dec 30 2015																			
Brexit voting day vs 12/31/15	6/23/2016	-0.62	-0.14	-3.48	0.32	-0.42	-0.45	-0.20	-0.31	-0.44	-0.54	-1.04	-0.18	-0.31	-0.36	0.57	0.28	-0.31	-0.44
PostBrexit Low	6/27/2016	-0.89	-0.32	-3.36	0.58	-0.56	-0.61	-0.05	-0.30	-0.78	-0.26	-0.65	-0.23	-0.49	-0.51	0.79	0.56	-0.02	-0.78
Recent data: Pre U.S. Election	11/4/2016	-0.67	-0.19	-4.43	0.55	-0.19	-0.14	0.36	-0.20	-0.42	-0.56	-0.14	-0.02	-0.19	-0.31	0.34	-0.34	-0.57	-0.42
Year End 2016: Trump elected	12/30/2016	-0.13	0.36	-5.24	0.99	0.20	0.04	0.57	-0.03	0.05	-1.43	0.10	0.18	-0.19	-0.31	-0.02	-1.34	-0.54	0.05
Recent Data: Global Strength	7/7/2017	-0.73	0.23	-5.96	0.46	0.14	0.34	1.00	0.35	-0.13	-1.84	-0.33	-0.10	0.07	0.23	0.59	-1.26	-0.97	-0.13
Most Recent Data: Global strength	8/24/2017	-0.90	0.26	-6.29	0.65	-0.06	-0.04	0.79	0.14	-0.51	-1.76	-0.33	-0.11	0.23	0.23	0.86	-1.06	-1.07	-0.51



Bond market signals are strongest in Australia, Indonesia, Turkey, Mexico and South Korea. For Australia and South Korea, it's a relatively steep yield curve. For Indonesia, Turkey and Mexico, it's a relatively narrow sovereign credit spread.

China's and India's credit spreads widened notably, giving negative signals.

Japan and other advanced economies had lower rates and flatter slopes, giving negative bond market signals for economic growth, partly offsetting strong stock and consumer signals.

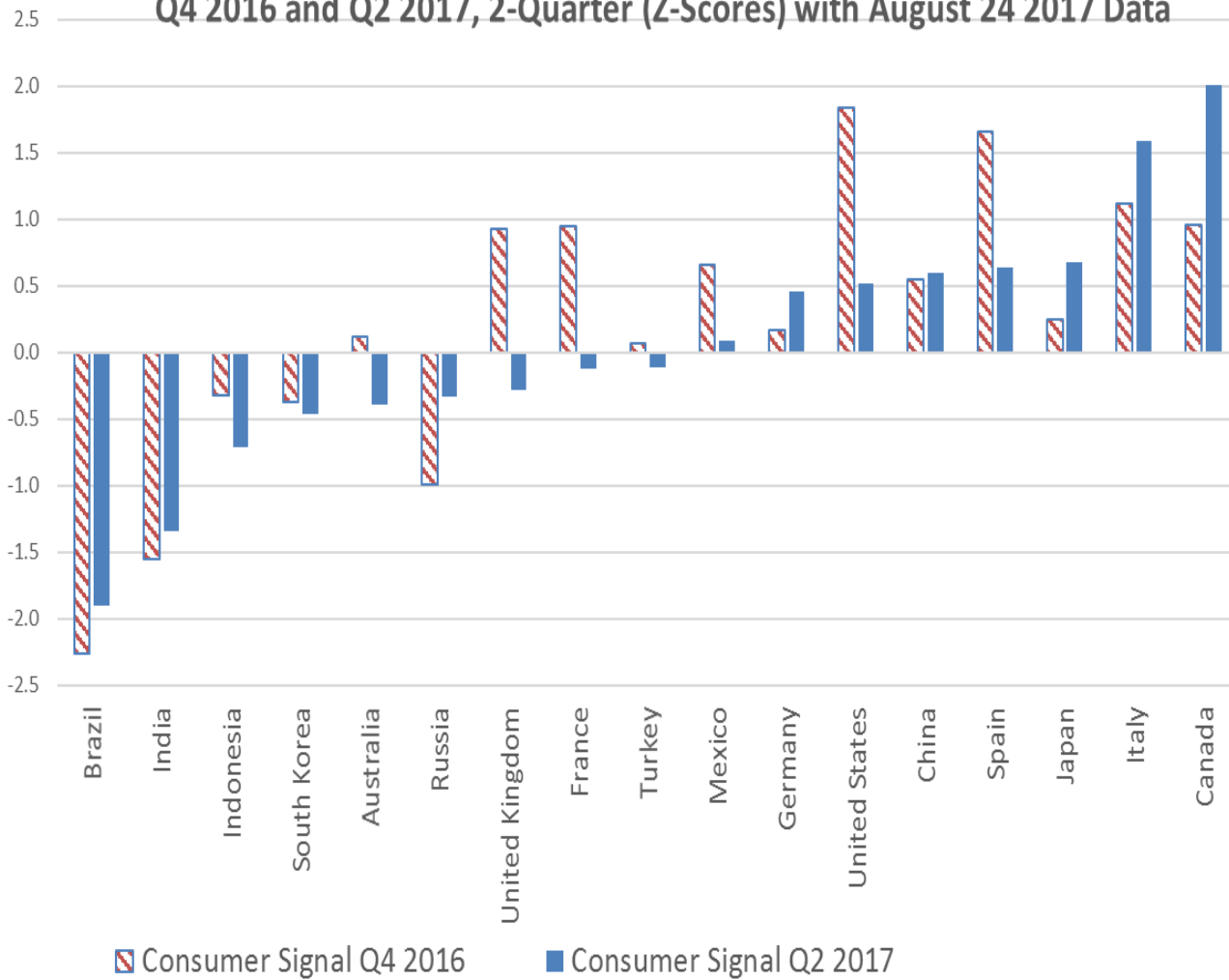
Consumer: Data for 2017Q2 has just been posted for most economies.

USA, France, Spain, the UK and Australia's consumption growth in the first half was weaker than in the past two years, relative to strong stock market gains, reducing their positive signals. In contrast, Canada, Germany, Italy, and Japan posted strong consumer spending, relative to stock market wealth. Consumers in Brazil and Russia reduced their negative spending signals.

Consumer Signals (Z)

	United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	South Korea	China	India	Indonesia
Z Multiplier	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2016-Q1	2.3	1.9	-1.8	0.2	2.2	0.5	0.9	1.8	1.0	-1.6	-0.3	-0.3	0.4	0.1	0.6	-1.7	0.0
2016-Q2	2.3	1.3	-2.5	-0.3	2.6	0.5	1.1	1.7	1.2	-1.1	-0.1	0.5	0.1	-0.4	0.6	-2.1	0.0
2016-Q3	2.0	0.6	-2.8	0.2	0.3	0.4	1.5	1.6	1.0	-1.0	-0.1	0.5	-0.5	-0.2	0.5	-2.2	-0.1
2016-Q4	1.8	1.0	-2.3	0.7	1.0	0.2	1.1	1.7	0.9	-1.0	0.1	0.2	0.1	-0.4	0.5	-1.5	-0.3
2017-Q1	0.5	1.1	-2.5	0.2	0.8	-0.4	1.3	1.1	0.3	-0.8	0.0	-0.1	0.2	-0.6	0.4	-1.2	-0.6
2017-Q2	0.5	2.0	-1.9	0.1	-0.1	0.5	1.6	0.6	-0.3	-0.3	-0.1	0.7	-0.4	-0.5	0.6	-1.3	-0.7

Consumer Spending Signals: Deviations from Stock Wealth
 Q4 2016 and Q2 2017, 2-Quarter (Z-Scores) with August 24 2017 Data



Consumer spending deviations from stock market wealth effects in the 1st half of 2017 were strongest in Canada and Italy. Positive consumer signals were also seen in Japan, Spain, China, USA and Germany.

The United Kingdom's signal flipped sign from positive to negative, perhaps with Brexit effects. France's consumers also held back. Brazil and India have sharply negative consumer spending signals, as consumption growth is weaker than normal, given strong rises in stock prices. 9

SBCLI: Stocks, Bonds Consumers Leading Indexes August 24, 2017

SBCLI increased most in Brazil, Turkey and Italy. Canada revised up.

Americas		Europe										AustralAsia					FTSE 250 (Domestic)
United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	South Korea	China	India	Indonesia	United Kingdom

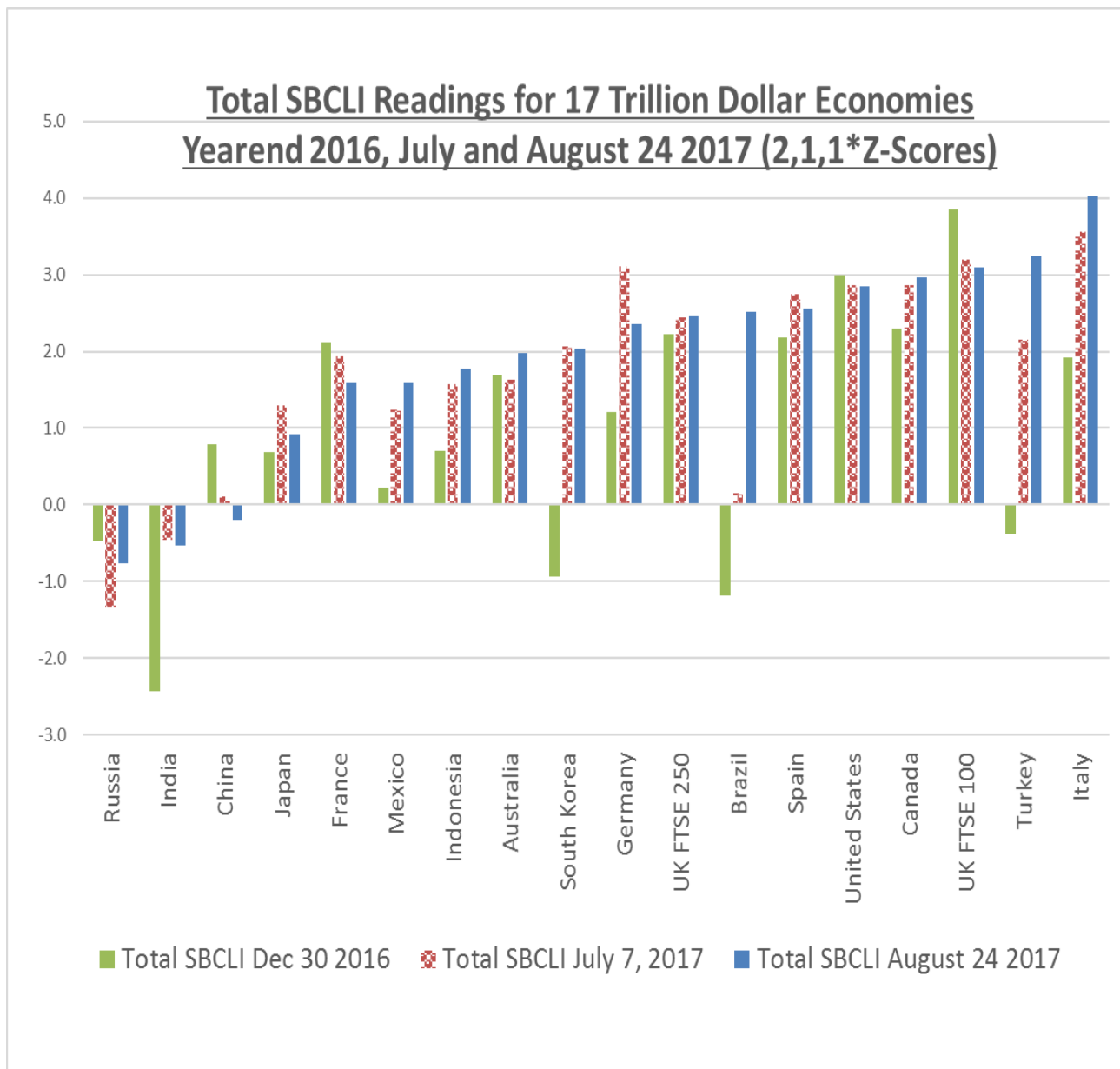
Stocks, Bonds, Consumers Leading Index (SBCLI) Updated for Stock Price, Consumer Spending and Bond Yield Spread Moves																	Based on Last 2 Quarters Data		
Brexit voting day	6/23/2016	0.2	1.3	-4.1	0.1	-1.0	-0.8	1.6	0.5	-0.4	-2.6	-0.3	-1.2	-0.2	-1.4	-0.3	-3.4	-0.7	-0.4
PostBrexit Low	6/27/2016	-1.1	0.6	-4.7	-0.6	-2.8	-2.4	-0.3	-1.2	-1.9	-3.3	-0.7	-1.8	-0.9	-2.0	-0.6	-3.8	-0.8	-3.6
Recent data: Pre U.S. Election	11/4/2016	-0.1	1.8	-1.0	0.2	-1.0	-0.4	0.5	0.4	0.8	-2.2	-1.0	-0.5	-0.4	-1.3	0.4	-2.8	0.5	-0.4
Year End 2016: Trump elected	12/30/2016	3.0	2.3	-1.2	0.2	2.1	1.2	1.9	2.2	3.8	-0.5	-0.4	0.7	1.7	-0.9	0.8	-2.4	0.7	2.2
Recent Data: Global Strength	7/7/2017	2.9	2.9	0.2	1.2	1.9	3.1	3.6	2.7	3.2	-1.3	2.2	1.3	1.6	2.1	0.1	-0.5	1.6	2.4
Most Recent Data: Global strength	8/24/2017	2.8	3.0	2.5	1.6	1.6	2.4	4.0	2.6	3.1	-0.8	3.2	0.9	2.0	2.0	-0.2	-0.5	1.8	2.5

Stocks, Bonds, Consumers Leading Index (SBCLI MA2, 4Q) Updated for Stock Price and Bond Yield Spread Moves																	Based on Last 4 Quarters Data		
Brexit voting day	6/23/2016	0.5	0.4	-4.4	0.0	-0.5	-1.2	0.1	-0.1	-0.4	-3.1	-0.9	-2.2	-0.6	-1.4	-0.6	-3.5	-0.4	-0.4
PostBrexit Low	6/27/2016	-0.1	0.0	-4.7	-0.4	-1.4	-1.9	-0.9	-0.9	-1.1	-3.4	-1.1	-2.6	-1.0	-1.7	-0.8	-3.7	-0.5	-2.0
Recent data: Pre U.S. Election	11/4/2016	0.9	1.2	-2.2	0.2	-0.3	-1.0	-0.4	0.1	0.7	-2.4	-0.7	-1.7	-0.2	-1.6	-0.3	-3.1	0.6	0.5
Year End 2016: Trump elected	12/30/2016	2.4	1.4	-2.3	0.2	1.3	-0.2	0.3	1.0	2.2	-1.5	-0.4	-1.1	0.8	-1.4	-0.1	-2.9	0.7	1.9
Recent Data: Global Strength	7/7/2017	3.1	2.2	-0.6	1.3	0.6	1.4	1.9	1.9	3.0	-1.7	1.1	-0.1	1.0	0.7	-0.1	-1.5	1.4	1.7
Most Recent Data: Global strength	8/24/2017	3.1	2.2	0.6	1.5	0.4	1.0	2.1	1.8	2.9	-1.5	1.6	-0.3	1.2	0.7	-0.3	-1.5	1.5	1.7

United States Canada Brazil Mexico France Germany Italy Spain UK FTSE 100 Russia Turkey Japan Australia South Korea China India Indonesia UK FTSE 250

Note that every 1.0 (increase) in SBCLI is normally associated in the next 4 quarters with (1) a (positive) deviation from trend in Real GDP Growth of approximately 0.5%, (2) a (positive) deviation from trend in the growth of Industrial Production of 1.0%, and (3) a decrease in the Unemployment Rate of 0.3%.

Total SBCLI Readings Yearend 2016, July, August 24 2017



SBCLI readings are strong globally, foretelling above trend growth. SBCLIs are strongest in Italy, Turkey, UK, Canada, USA, Spain, Brazil and Germany.

SBCLI is solid in South Korea, Australia, Indonesia, Mexico, France and Japan.

China dropped slightly negative due to a wider sovereign credit spread. India's consumer signal was weak, leading to a slightly negative SBCLI. Russia is the most negative, but improved a bit in the last 2 months.

Appendix: 10 Years of SBCLI Data Covering the Great Recession and Sovereign Debt Crisis

Breeders' Stocks, Bonds, Consumers Leading Indicators (SBCLI®)													(2Q Returns, Growth)					
Douglas T. Breeders, Duke University and Amundi Pioneer													8/27/2017 11:17					
United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	United Kingdom	Russia	Turkey	Japan	Australia	South Korea	China	India	Indonesia	
Americas				Europe				FTSE 100	FTSE 250			AustralAsia						
2006-Q4	-1.3	-1.2	1.7	2.4	-1.9	0.5	0.8	1.6	-2.1		2.6	-2.3	-0.3	-0.2	-0.8	2.7	1.7	3.6
2007-Q1	-0.9	-0.8	4.0	3.4	0.4	-0.6	1.5	2.0	-1.0		3.2	-0.7	1.9	3.3	0.0	3.8	2.1	4.3
2007-Q2	-2.8	0.1	4.4	3.1	0.4	-1.7	0.6	-0.4	-0.3		2.7	0.0	1.0	2.5	0.9	4.2	1.0	3.7
2007-Q3	-2.9	0.2	3.1	1.5	-1.1	-0.5	-1.6	-1.4	-1.1		2.5	1.0	-1.5	-0.3	2.4	1.8	2.6	4.6
2007-Q4	-3.1	0.5	3.6	-0.5	-3.5	-3.3	-3.1	-0.8	-2.2		3.0	0.8	-2.6	-0.1	0.8	-0.4	4.7	5.3
2008-Q1	-4.4	0.8	3.5	-0.8	-7.0	-5.1	-4.1	-2.1	-4.6		1.7	-2.4	-2.7	-4.1	-3.2	-2.5	2.1	3.5
2008-Q2	-3.4	-1.4	2.0	0.3	-7.0	-5.4	-3.8	-4.4	-5.6		1.3	-4.1	-2.8	-7.3	-4.1	-2.9	-2.0	-0.9
2008-Q3	-3.7	-2.4	0.9	-1.3	-5.7	-4.9	-4.1	-5.7	-6.6		0.0	-3.5	-2.9	-7.2	-4.4	-1.9	-4.5	-3.4
2008-Q4	-7.5	-7.4	-4.1	-6.4	-8.5	-7.4	-6.7	-6.7	-10.6		-4.4	-5.7	-5.6	-8.0	-9.2	0.2	-6.0	-6.4
2009-Q1	-6.3	-6.6	-3.5	-7.7	-5.6	-4.1	-6.6	-5.0	-6.8		-5.4	-4.2	-5.6	-5.6	-4.8	1.1	-6.5	-3.2
2009-Q2	0.3	3.1	5.7	-1.4	1.4	2.0	-1.3	-2.3	-0.3		1.6	1.2	0.8	2.0	5.0	3.8	0.6	4.2
2009-Q3	4.5	7.0	7.4	5.3	5.4	3.2	3.5	2.2	3.7		1.7	5.6	3.6	6.0	7.7	4.3	3.9	5.4
2009-Q4	4.0	4.8	3.7	5.4	5.9	3.0	3.3	3.2	6.2		-0.1	3.7	1.1	4.7	3.8	2.5	1.2	1.5
2010-Q1	1.4	3.5	1.8	2.3	4.4	2.9	1.0	-0.7	3.3		0.9	1.1	0.8	2.2	1.6	2.1	0.8	-0.6
2010-Q2	1.2	2.5	0.1	0.7	0.7	1.5	-1.4	-2.7	1.4		-0.4	0.7	0.9	-0.1	0.8	1.5	-0.6	0.0
2010-Q3	0.6	1.0	0.5	0.7	-0.4	0.4	-0.6	-2.5	0.6		-0.6	0.8	-0.2	-0.6	1.0	0.3	-1.7	-0.6
2010-Q4	2.7	2.3	2.5	2.4	1.9	1.9	0.9	-1.5	0.4		0.8	1.2	-1.1	0.5	1.8	0.5	-0.1	0.5
2011-Q1	4.3	2.3	1.6	1.9	3.7	4.0	0.9	-1.8	1.4		1.5	0.0	-1.7	1.3	1.7	0.6	-0.2	0.1
2011-Q2	1.1	0.0	0.3	0.2	-1.3	0.0	-0.2	-2.0	-0.4		0.3	-1.2	-1.2	-0.4	-0.1	-1.0	-0.7	-0.1
2011-Q3	-1.4	-1.6	-1.7	1.0	-5.5	-3.2	-3.7	-3.3	-2.4		-1.0	-1.5	0.0	-3.1	-2.8	-2.8	-1.1	1.6
2011-Q4	-1.3	-1.5	-2.3	0.5	-4.2	-2.9	-6.1	-4.4	-1.5		-1.3	-2.5	-0.3	-4.0	-4.0	-3.5	-2.8	-0.4
2012-Q1	1.0	-0.1	1.0	1.0	-0.1	0.5	-3.8	-2.3	1.5		-0.4	-1.6	0.1	-1.1	-1.3	-3.1	-2.0	-0.8
2012-Q2	0.9	-0.7	0.6	1.3	0.6	1.0	-3.2	-3.3	0.6		-0.4	-0.7	0.5	-0.7	-1.1	-2.9	-2.4	1.1
2012-Q3	-0.9	-1.1	-0.6	1.1	-0.9	-0.4	-2.4	-3.3	-0.4		-1.0	0.2	-1.1	-2.4	-2.0	-2.8	-3.3	1.2
2012-Q4	0.0	0.5	0.5	1.3	1.7	1.1	0.0	-0.8	1.3		-0.4	1.1	-0.8	-1.0	-0.9	-2.7	-2.1	1.0
2013-Q1	0.7	0.7	0.2	1.8	1.5	1.2	-0.5	-0.8	1.8		0.2	0.8	3.5	1.2	-1.6	-1.8	-1.4	1.0
2013-Q2	0.3	0.5	-0.4	-0.2	1.1	0.8	-1.1	-0.8	1.5		-0.7	0.1	6.0	0.6	-2.0	-2.0	-1.6	1.3
2013-Q3	0.5	0.9	0.3	-1.1	0.9	1.4	-0.2	-0.2	1.5		-0.6	-2.1	1.8	1.2	-0.8	-1.6	-2.7	-0.5
2013-Q4	1.9	1.2	0.1	0.0	2.0	1.1	1.8	2.1	1.7		0.5	-2.0	-1.0	2.3	0.1	-1.3	-2.4	-1.5
2014-Q1	2.1	0.9	0.6	-0.4	0.6	0.9	2.4	2.2	1.3		-0.2	-2.4	0.9	1.4	-0.6	-1.2	-2.0	-0.3
2014-Q2	1.7	1.0	0.4	1.0	-0.3	0.0	1.7	1.0	1.0		-1.1	-0.8	-3.7	0.9	-1.8	-1.4	-1.9	0.4
2014-Q3	2.9	1.1	0.7	2.1	1.1	-1.0	0.3	0.6	1.8		-0.8	1.4	-4.6	1.0	-1.1	-1.1	-1.0	-0.4
2014-Q4	3.4	-0.6	0.6	0.2	-0.9	-0.7	-1.1	-0.4	0.2		-1.1	-0.2	0.9	-0.5	-1.4	-0.3	-1.1	-1.3
2015-Q1	3.0	-2.1	-3.2	-0.4	0.5	1.5	1.2	0.3	0.2		-2.2	-0.4	1.1	-0.3	-1.8	0.2	-1.4	-1.2
2015-Q2	2.6	-1.0	-4.5	0.8	2.3	2.2	4.1	1.8	2.0		-2.5	-1.1	0.7	1.0	-0.6	1.7	-1.7	-1.0
2015-Q3	1.6	-0.5	-4.6	0.5	0.0	-1.0	2.4	1.0	-0.1		-4.1	-2.1	-0.6	-0.7	-1.0	-0.3	-2.3	-2.0
2015-Q4	1.2	-0.9	-5.0	-0.1	-1.1	-1.8	0.5	-0.1	-0.8		-4.5	-1.8	-2.2	-1.2	-0.6	-1.1	-3.0	-1.7
2016-Q1	0.9	-0.6	-4.7	-0.2	0.1	-1.5	-1.4	-0.6	-0.4		-3.6	-1.4	-3.3	-1.0	-1.5	-0.9	-3.6	-0.1
2016-Q2	1.9	0.6	-3.4	0.2	0.5	-1.5	-1.3	-0.2	0.6		-2.5	-0.3	-2.9	-0.1	-1.8	-1.0	-3.5	0.6
06/23/16	0.2	1.3	-4.1	0.1	-1.0	-0.8	1.6	0.5	-0.4		-2.6	-0.3	-1.2	-0.2	-1.4	-0.3	-3.4	-0.7
06/27/16	-1.1	0.6	-4.7	-0.6	-2.8	-2.4	-0.3	-1.2	-1.9		-3.3	-0.7	-1.8	-0.9	-2.0	-0.6	-3.8	-0.8
11/04/16	-0.1	1.8	-1.0	0.2	-1.0	-0.4	0.5	0.4	0.8		-2.2	-1.0	-0.5	-0.4	-1.3	0.4	-2.8	0.5
12/30/16	3.0	2.3	-1.2	0.2	2.1	1.2	1.9	2.2	3.8		-0.5	-0.4	0.7	1.7	-0.9	0.8	-2.4	0.7
07/07/17	2.9	2.9	0.2	1.2	1.9	3.1	3.6	2.7	3.2		-1.3	2.2	1.3	1.6	2.1	0.1	-0.5	1.6
08/24/17	2.8	3.0	2.5	1.6	1.6	2.4	4.0	2.6	3.1		-0.8	3.2	0.9	2.0	2.0	-0.2	-0.5	1.8

Stocks, Bonds, Consumers Leading Indicators (SBCLI©)

(2Q Returns, Growth)

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Stock Market Signals

	United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	South Korea	China	India	Indonesia	United Kingdom	
	Americas				Europe				FTSE 100			AustralAsia						FTSE 250	
Z-Multiplier	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2
2016-Q1	-1.6	-1.7	-1.8	-0.7	-1.6	-1.5	-2.3	-2.4	-1.6	0.1	-0.8	-1.7	-1.4	-0.7	-1.0	-1.2	-0.1		
2016-Q2	-0.4	0.0	0.4	0.2	-1.4	-1.3	-2.5	-2.0	-0.6	0.3	-0.1	-2.0	-0.1	-0.4	-0.9	-0.4	0.4	-0.6	
2016-Q3	1.4	1.9	2.8	0.9	0.0	0.3	-1.3	-0.5	2.1	0.5	-0.1	-0.7	1.1	0.4	0.1	0.9	1.0	2.1	
2016-Q4	0.3	1.1	1.7	-0.2	0.5	0.6	-0.4	0.0	1.9	0.4	-0.8	0.8	0.2	-0.1	0.2	0.2	0.6	0.5	
6/23/2016	-0.3	0.0	-0.5	-0.3	0.1	-0.2	0.0	-0.1	-0.1	-0.6	-0.6	-0.3	-0.3	-0.3	-0.1	0.2	-0.3	0.0	
6/27/2016	-1.3	-0.5	-1.0	-0.9	-1.5	-1.5	-1.9	-1.8	-1.3	-1.2	-1.0	-0.9	-0.8	-0.7	-0.1	-0.1	-0.4	-2.9	
11/4/2016	-0.6	0.5	2.0	-0.1	-0.2	-0.2	-1.1	-0.3	1.1	-0.3	-1.1	0.1	-0.6	-0.3	0.2	0.3	0.7	-0.1	
12/30/2016	0.8	1.5	1.6	-0.5	1.4	1.5	0.8	0.5	2.6	1.7	-0.6	1.5	0.9	0.0	0.2	0.0	0.6	0.9	
7/7/2017	2.5	1.2	2.2	0.9	2.4	2.8	2.0	2.1	3.3	0.0	2.0	2.1	1.0	2.5	0.3	1.8	1.7	2.5	
8/24/2017	2.6	1.3	4.3	1.3	2.3	2.5	2.4	1.9	3.5	0.6	3.1	1.7	1.2	2.4	0.4	1.9	1.9	2.9	

Bond Market Signals (Term Structure Slope or Sovereign Credit Spread for EMs)

	United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	South Korea	China	India	Indonesia	United Kingdom	
Z Multiplier	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	2	1	1	1
Variable	Slope	Slope	Credit	Credit	Slope	Slope	Slope	Slope	Slope	Credit	Credit	Slope	Slope	Slope	Credit	Credit	Credit	Slope	
2016-Q1	0.1	-0.8	-1.1	0.3	-0.6	-0.6	0.0	0.0	0.2	-2.0	-0.4	-1.3	0.0	-0.9	-0.5	-0.6	0.0		
2016-Q2	0.0	-0.7	-1.2	0.3	-0.7	-0.8	0.0	0.0	0.0	-1.8	0.0	-1.4	0.0	-0.9	-0.8	-0.9	0.2	0.0	
2016-Q3	-0.2	-1.0	-1.3	0.2	-1.0	-1.0	0.0	0.0	-0.4	-1.7	0.2	-1.4	-0.2	-1.0	-1.0	-1.2	0.3	-0.4	
2016-Q4	0.2	-0.5	-0.9	0.2	-0.5	-0.7	0.0	0.0	0.1	-1.4	0.2	-1.3	0.6	-0.6	-0.2	-1.2	0.5	0.1	
6/23/2016	-0.1	-0.7	-1.7	0.3	-1.0	-1.1	0.0	0.0	0.0	-1.6	0.4	-1.5	0.5	-0.7	-0.8	-2.2	0.4	-0.1	
6/27/2016	-0.3	-0.9	-1.8	0.2	-1.1	-1.3	0.0	0.0	-0.3	-1.7	0.3	-1.6	0.3	-0.8	-1.1	-2.4	0.3	-0.4	
11/4/2016	-0.1	-0.7	-1.1	0.2	-0.7	-0.7	0.0	0.0	0.0	-1.6	0.2	-1.3	0.7	-0.6	-0.5	-1.7	0.5	-0.1	
12/30/2016	0.3	-0.2	-0.6	0.0	-0.3	-0.5	0.0	0.0	0.3	-1.2	0.2	-1.1	0.7	-0.6	0.1	-0.9	0.4	0.4	
7/7/2017	-0.1	-0.3	-0.1	0.3	-0.3	-0.1	0.0	0.0	0.2	-1.0	0.3	-1.4	1.0	0.1	-0.8	-1.0	0.6	0.2	
8/24/2017	-0.3	-0.3	0.1	0.2	-0.6	-0.6	0.0	0.0	-0.1	-1.0	0.3	-1.5	1.2	0.1	-1.2	-1.1	0.6	-0.1	

Consumer Signals (Z)

	United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	South Korea	China	India	Indonesia	United Kingdom	
Z Multiplier	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2016-Q1	2.3	1.9	-1.8	0.2	2.2	0.5	0.9	1.8	1.0	-1.6	-0.3	-0.3	0.4	0.1	0.6	-1.7	0.0	1.0174509	
2016-Q2	2.3	1.3	-2.5	-0.3	2.6	0.5	1.1	1.7	1.2	-1.1	-0.1	0.5	0.1	-0.4	0.6	-2.1	0.0	1.2	
2016-Q3	2.0	0.6	-2.8	0.2	0.3	0.4	1.5	1.6	1.0	-1.0	-0.1	0.5	-0.5	-0.2	0.5	-2.2	-0.1	1.0	
2016-Q4	1.8	1.0	-2.3	0.7	1.0	0.2	1.1	1.7	0.9	-1.0	0.1	0.2	0.1	-0.4	0.5	-1.5	-0.3	0.9	
2017-Q1	0.5	1.1	-2.5	0.2	0.8	-0.4	1.3	1.1	0.3	-0.8	0.0	-0.1	0.2	-0.6	0.4	-1.2	-0.6	0.3	
2017-Q2	0.5	2.0	-1.9	0.1	-0.1	0.5	1.6	0.6	-0.3	-0.3	-0.1	0.7	-0.4	-0.5	0.6	-1.3	-0.7	-0.3	

Stocks, Bonds, Consumers Leading Indicators (SBCLI©)

	United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	South Korea	China	India	Indonesia	United Kingdom
	Americas				Europe							AustralAsia						
2016-Q1	0.9	-0.6	-4.7	-0.2	0.1	-1.5	-1.4	-0.6	-0.4	-3.6	-1.4	-3.3	-1.0	-1.5	-0.9	-3.6	-0.1	
2016-Q2	1.9	0.6	-3.4	0.2	0.5	-1.5	-1.3	-0.2	0.6	-2.5	-0.3	-2.9	-0.1	-1.8	-1.0	-3.5	0.6	0.6
2016-Q3	3.3	1.5	-1.3	1.4	-0.7	-0.3	0.2	1.1	2.7	-2.2	0.0	-1.6	0.3	-0.7	-0.4	-2.4	1.2	1.2
2016-Q4	2.3	1.5	-1.5	0.6	0.9	0.1	0.7	1.6	2.9	-2.0	-0.5	-0.2	0.9	-1.0	0.6	-2.6	0.7	1.5
6/23/2016	1.5	0.3	-4.4	0.7	0.1	-1.1	1.1	1.5	0.8	-3.2	-0.1	-1.6	0.3	-1.3	-0.4	-3.6	-0.3	0.8
6/27/2016	0.2	-0.5	-5.1	0.0	-1.7	-2.6	-0.8	-0.2	-0.7	-3.9	-0.6	-2.2	-0.4	-1.9	-0.7	-4.0	-0.5	-2.4
11/4/2016	1.2	0.7	-1.4	0.8	0.0	-0.7	0.0	1.4	2.0	-2.9	-0.8	-1.0	0.1	-1.3	0.3	-3.0	0.9	0.8
12/30/2016	3.0	2.3	-1.2	0.2	2.1	1.2	1.9	2.2	3.8	-0.5	-0.4	0.7	1.7	-0.9	0.8	-2.4	0.7	2.2
7/7/2017	2.9	2.9	0.2	1.2	1.9	3.1	3.6	2.7	3.2	-1.3	2.2	1.3	1.6	2.1	0.1	-0.5	1.6	2.4
8/24/2017	2.8	3.0	2.5	1.6	1.6	2.4	4.0	2.6	3.1	-0.8	3.2	0.9	2.0	2.0	-0.2	-0.5	1.8	2.5