

#2017-November

# **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.  
Advanced economies' forecasts move up most August-November:  
Japan, Germany, France, U.S.A., South Korea, Italy***

**Douglas T. Breeden\***

November 6, 2017

**Senior Research Consultant, Amundi Pioneer Asset Management**  
**William W. Priest Professor of Finance, Duke University, Fuqua School of Business**

\*I thank Song Xiao and Haoran Zhang 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](http://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 November 3, 2017

- In the last two months, stock prices moved sharply higher in many countries, especially in the advanced economies of Japan, Germany, France, USA, South Korea and Italy. Other countries also gained, with the only loss being in Mexico, which declined 5.5%.
- In bond markets, interest rates increased with global strength and growing indications of normalization in many parts of the world. The Bank of England “lifted off” for the first time in 10 years, but indicated a very slow path of future increases. Slopes steepened slightly in the Eurozone with the higher long rates, giving positive bond market signals. Russia’s credit spread continued to narrow, confirming its strong stock market and pushing its SBCLI into positive territory. Sovereign credit spreads widened further in China and India, negative signals. Sovereign spreads in Turkey and Mexico also gave negative signals, as they widened, reversing prior improvements.
- Consumer signals are spending deviations from wealth effects and only slightly positive, as large stock market gains lead to higher expected consumption growth. Consumer signals were strong for Canada and notably improving for Japan, Brazil, Russia and South Korea. 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. Previously strong signals in France, Spain, USA and Australia have dropped, as spending growth is not increasing as fast as stock prices. Notable negative consumer signals are weakness in the UK (Brexit anxiety?) and very weak spending growth in India, relatively to India’s strong stock market returns. This gives India a rapid, but below-trend growth forecast.
- Overall, total SBCLI indicators are quite strong and growing globally, foretelling continued strong global economic growth. Strong signals of +3.0 to +5.0 for well above-trend growth in the coming year are strongest in Brazil, Italy, Germany, Canada, USA, UK, S. Korea, France and Japan, in order.

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

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	GDP Trend		11/5/2017 15:50									Implied						
	Growth	Sensitivity	Stock Market Z-Scores (x2)			Bond Market Z-Scores			Consumer Z-Scores			Total SBCLI	Last 2Q	Last 4Q	GDP Growth			
			10 Yr, Pct	to SBCLI Pt	12/30/16	8/24/17	11/3/17	12/30/16	8/24/17	11/3/17	2016-Q4	2017-Q	2017-Q2	12/30/16	8/24/17	11/3/17	11/3/17	Forecast
					12/30/16	8/24/17	11/3/17	12/30/16	8/24/17	11/3/17	2016-Q4	2017-Q	2017-Q2	12/30/16	8/24/17	11/3/17	11/3/17	Forecast
United States	1.4	0.50	0.8	2.6	3.9	0.3	-0.3	-0.3	1.8	0.5	0.7	3.0	3.1	4.4	3.7	3.3		
Canada	1.7	0.41	1.5	1.3	2.5	-0.2	-0.3	-0.4	1.0	1.2	2.3	2.3	3.3	4.4	3.4	3.1		
Brazil	1.6	1.03	1.6	4.3	5.0	-0.6	0.1	0.2	-1.7	-1.8	0.0	-0.6	4.4	5.1	2.2	3.9		
Mexico	2.1	0.42	-0.5	1.3	0.4	0.0	0.2	0.1	0.7	0.3	0.5	0.3	2.0	0.9	0.6	2.4		
France	0.7	0.36	1.4	2.3	3.6	-0.3	-0.6	-0.4	0.7	0.7	-0.1	1.9	1.6	3.1	2.5	1.6		
Germany	1.2	0.66	1.5	2.5	4.3	-0.5	-0.6	-0.5	0.8	0.5	0.7	1.8	2.6	4.5	3.2	3.3		
Italy	-0.6	0.53	0.8	2.4	3.3	0.0	0.0	0.0	1.3	1.3	1.3	2.1	3.7	4.6	3.3	1.2		
Spain	0.3	0.91	0.5	1.9	1.9	0.0	0.0	0.0	1.7	1.1	0.6	2.2	2.6	2.6	2.4	2.5		
United Kingdom	1.1	0.46	2.6	3.5	4.0	0.3	-0.1	-0.1	0.4	-0.1	-0.3	3.3	3.1	3.6	3.5	2.7		
Russia	1.2	1.62	1.7	0.6	1.2	-1.2	-1.0	-0.8	-0.9	-0.7	-0.1	-0.3	-0.6	0.2	-0.1	1.1		
Turkey	5.4	0.76	-0.6	3.1	3.3	0.2	0.3	-0.1	-0.2	-0.2	-0.6	-0.7	2.7	2.6	1.0	6.2		
Japan	0.6	0.34	1.5	1.7	3.8	-1.1	-1.5	-1.4	0.3	0.1	0.7	0.8	0.9	3.1	1.9	1.2		
Australia	2.5	0.29	0.9	1.2	1.9	0.7	1.2	1.2	0.2	0.3	-0.2	1.8	2.2	2.8	2.3	3.2		
South Korea	3.2	0.07	0.0	2.4	3.7	-0.6	0.1	0.1	-0.4	-0.6	-0.3	-0.9	2.2	3.5	1.3	3.2		
China*	6.9	0.72	0.2	0.4	0.6	0.1	-1.2	-1.3	0.6	0.4	0.7	0.8	-0.2	-0.1	0.3	7.1		
India	7.2	0.34	0.0	1.9	2.7	-0.9	-1.1	-1.3	-1.5	-1.1	-2.0	-2.3	-1.2	-0.5	-1.4	6.7		
Indonesia	5.5	0.40	0.6	1.9	2.2	0.4	0.6	0.7	-0.3	-0.6	-0.5	0.7	2.0	2.4	1.5	6.1		
<b>Averages</b>	<b>2.5</b>	<b>0.58</b>	<b>0.9</b>	<b>2.1</b>	<b>2.8</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-0.3</b>	<b>0.3</b>	<b>0.1</b>	<b>0.2</b>	<b>0.9</b>	<b>2.0</b>	<b>2.8</b>	<b>1.9</b>	<b>3.5</b>		

\*China trend is 3 years vs. 10 years for other countries.

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.

**Stocks:** In September and October 2017, Stocks gained strongly in Japan (17%), Germany (11%), France (8%), South Korea (8%), India (7%), Canada (6%) and USA (6%). Stocks underperformed in Spain (0%), U.K. and Turkey (2%) and actually fell 6% in Mexico.

**Global Stock Market Performance and SBCLI to July 2017: Strong Economic Growth in Europe, America, Asia**

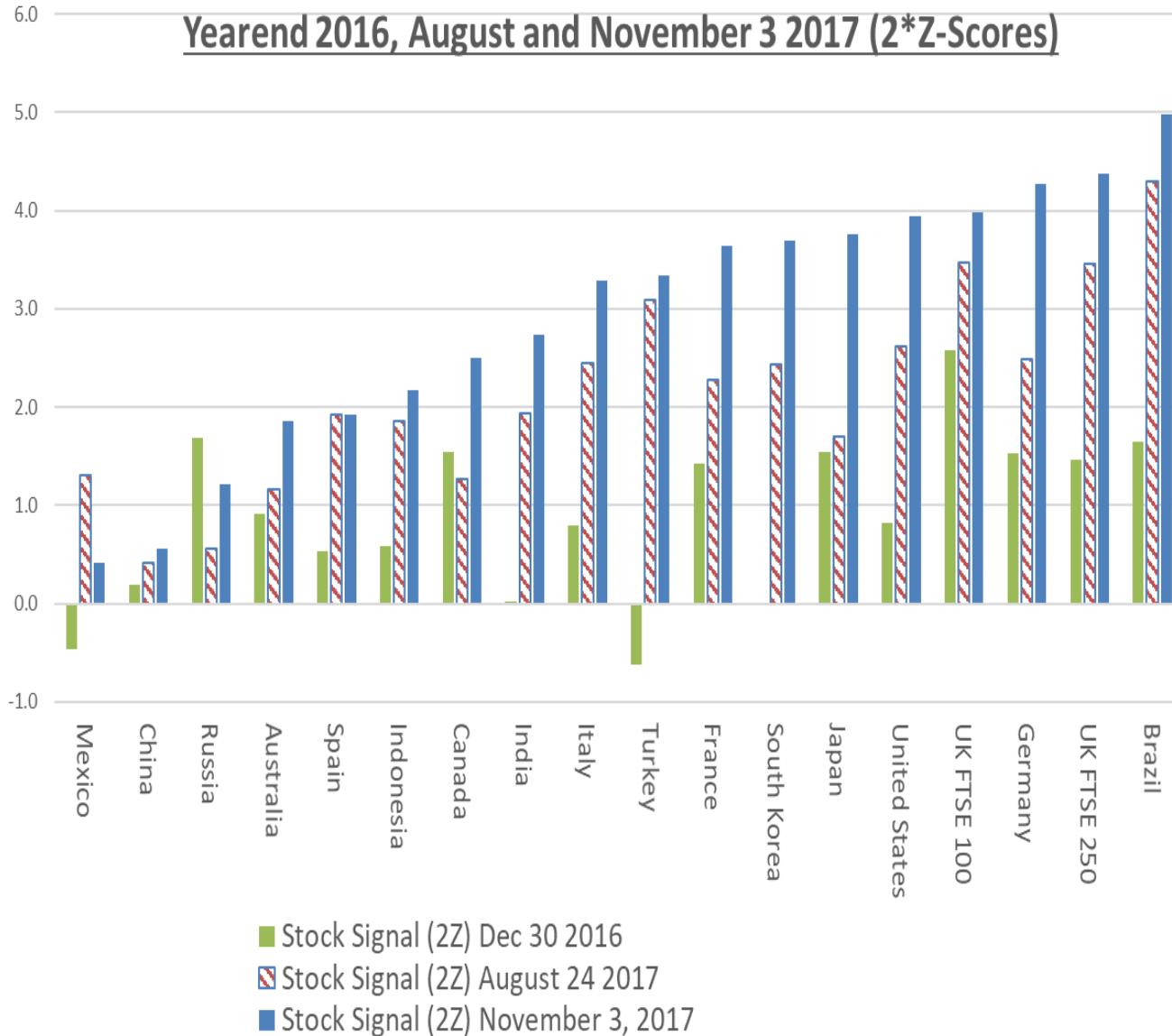
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Major Stock Price Indexes:		Americas				Europe							AustralAsia				UK FTSE250			
		United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	S.Korea	China	India	Indonesia	United Kingdom	
Year End 2015	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	
Q4 2016 Average	Avg Q4 2016	2,186	14,935	60,331	46,428	4,591	10,816	17,352	8,944	6,927	1,036	76,670	17,949	5,445	2,013	3,140	27,020	5,286	17,736	
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	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	
Most Recent: Stock Highs, Normalize	11/3/2017	2,588	16,020	73,915	48,535	5,518	13,479	23,014	10,358	7,560	1,109	111,293	22,589	5,960	2,558	3,372	33,686	6,040	20,472	
<b>Cumulative Percentage Changes in Stock Prices from Yearend 2015, Dec 30 2015</b>																				
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%	
Q4 2016 Average	Avg Q4 2016	7.0%	14.8%	39.2%	8.0%	-1.0%	0.7%	-19.0%	-6.3%	11.0%	36.9%	6.9%	-5.7%	2.8%	2.6%	-11.3%	3.5%	15.1%	3.6%	
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	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%	
Most Recent: Stock Highs, Normalize	11/3/2017	26.6%	23.1%	70.5%	12.9%	19.0%	25.5%	7.4%	8.5%	21.1%	46.5%	55.2%	18.7%	12.5%	30.4%	-4.7%	29.0%	31.5%	19.6%	
Gain in last 2 months (mark to mark):		6.1%	6.3%	3.9%	-5.7%	7.9%	10.7%	5.9%	0.0%	2.1%	5.7%	2.0%	16.7%	3.7%	7.7%	3.1%	6.6%	2.5%	3.9%	

## Stock Return Signals by Country

Yearend 2016, August and November 3 2017 (2\*Z-Scores)



Stock return signals are positive around the world, in all 17 TDEs.

Stock signals are strongest in Brazil, the UK, Germany, USA, Japan, S. Korea, France, Turkey, Italy.

Interestingly, the UK's FTSE 250, reflecting more domestically oriented firms, now has a stronger signal than the FTSE 100. This reflects the sharp bounceback in the FTSE 250 after an initial post-Brexit sharp decline.

**Bonds:** Term structure slopes steepened in Europe, (a good sign) as long rates increased as investors build in likely normalization. The UK began liftoff last week for the first time in 10 years. Sovereign spreads further widened in China and India, negative signals. Prior strong signals for Turkey and Mexico were reversed as their sovereign credit spreads widened. Russia's credit spread narrowed, confirming an improving stock market signal.

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

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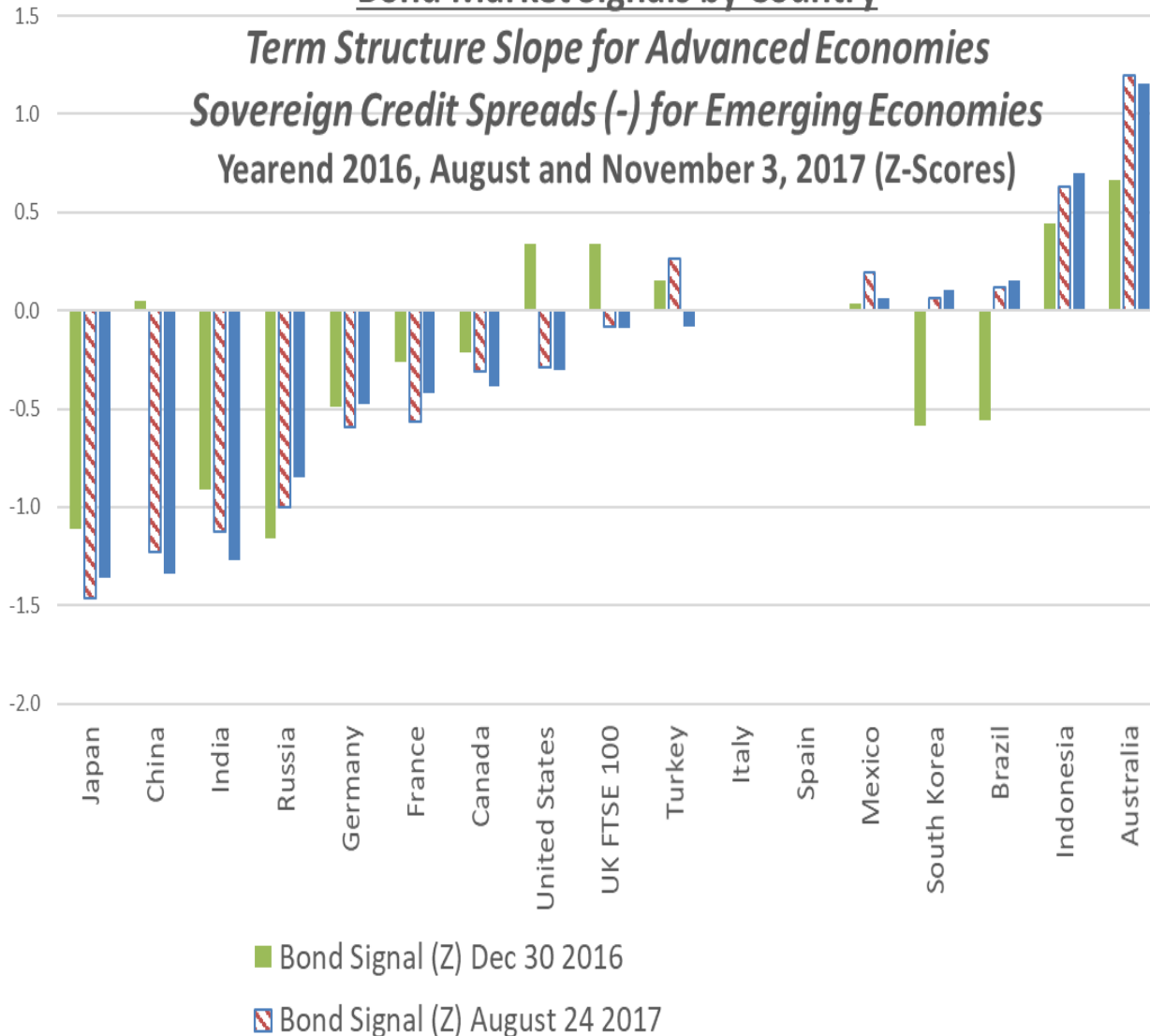
		Americas				Europe							AustralAsia					United Kingdom	
		United States	Canada	Brazil	Mexico	France	Germany	Italy	Spain	United Kingdom	Russia	Turkey	Japan	Australia	South Korea	China	India	Indonesia	United Kingdom
Country Slopes and Credit Spreads		Slope	Slope	Credit	Credit	Slope	Slope	Slope	Slope	Slope	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
Q4 2016 Average	Q4-2016	1.72	0.97	9.53	4.68	1.35	1.06	2.12	1.74	1.11	6.38	8.28	0.35	0.53	0.23	0.77	4.43	1.80	1.11
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	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
Most Recent: Stock Highs, Normalize	11/3/2017	1.16	1.09	7.83	4.91	1.45	1.20	2.24	1.90	0.86	5.28	9.57	0.26	0.98	0.80	1.55	4.53	1.17	0.86
<b>Cumulative Changes in Bond Market Yield Spreads from Yearend 2015, Dec 30 2015</b>																			
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
Q4 2016 Average	Avg Q4 2016	-0.36	0.06	-4.63	0.69	-0.04	-0.09	0.39	-0.15	-0.26	-0.96	-0.26	0.06	-0.25	-0.31	0.16	-0.97	-0.61	-0.26
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	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
Most Recent: Stock Highs, Normalize	11/3/2017	-0.92	0.18	-6.34	0.92	0.06	0.05	0.51	0.00	-0.51	-2.07	1.03	-0.03	0.20	0.26	0.94	-0.88	-1.24	-0.51

## Bond Market Signals by Country

*Term Structure Slope for Advanced Economies*

*Sovereign Credit Spreads (-) for Emerging Economies*

Yearend 2016, August and November 3, 2017 (Z-Scores)



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

China's and India's credit spreads widened notably, giving negative signals, which is statistically significant for China.

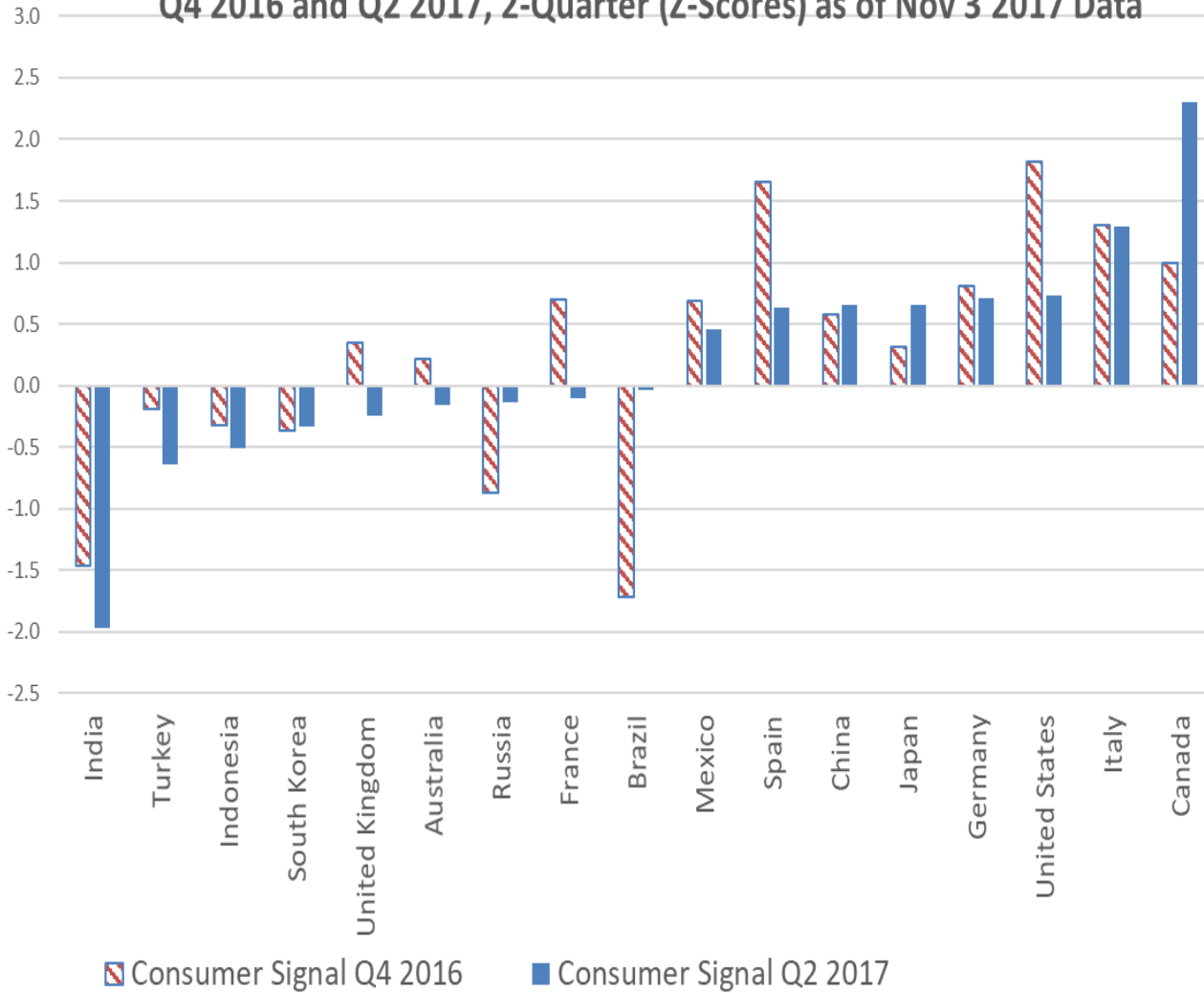
Japan and other advanced economies have relatively flat slopes, giving negative bond market signals for economic growth, partly offsetting strong stock and consumer signals.

**Consumer:** Consumer signals are spending deviations from wealth effects and are only slightly positive on average, as large stock market gains lead to higher expected consumption growth. Consumer signals were strong for Canada and notably improving for Japan, Brazil, Russia and South Korea. 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. Previously strong signals in France, Spain, USA and Australia have dropped, as spending growth is not increasing as fast as stock prices have risen. Notable negative consumer signals are weakness in the UK (Brexit anxiety?) and very weak spending growth in India, relative to stock market wealth.

<b>Consumer Signals (Z)</b>																	
	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	2.4	2.0	-1.3	0.2	2.2	0.7	0.8	1.8	1.0	-1.6	-0.6	-0.4	0.4	0.0	0.6	-1.8	-0.1
2016-Q2	2.3	1.4	-2.3	-0.2	2.7	0.1	1.1	1.7	1.3	-1.0	-0.4	0.4	0.0	-0.5	0.6	-2.1	-0.1
2016-Q3	2.0	0.7	-2.6	0.3	0.1	0.1	1.5	1.6	0.9	-0.9	-0.3	0.4	-0.6	-0.2	0.5	-2.1	-0.2
2016-Q4	1.8	1.0	-1.7	0.7	0.7	0.8	1.3	1.7	0.4	-0.9	-0.2	0.3	0.2	-0.4	0.6	-1.5	-0.3
2017-Q1	0.5	1.2	-1.8	0.3	0.7	0.5	1.3	1.1	-0.1	-0.7	-0.2	0.1	0.3	-0.6	0.4	-1.1	-0.6
2017-Q2	0.7	2.3	0.0	0.5	-0.1	0.7	1.3	0.6	-0.3	-0.1	-0.6	0.7	-0.2	-0.3	0.7	-2.0	-0.5



## Consumer Spending Signals: Deviations from Stock Wealth Q4 2016 and Q2 2017, 2-Quarter (Z-Scores) as of Nov 3 2017 Data



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

The United Kingdom's signal flipped sign from positive to negative, likely with Brexit effects.

India's consumers still hold back, despite large wealth increases, a worrisome sign. Brazil and Russia's negative C-signals improved considerably, as they emerge from recessions.

# **SBCLI: Stocks, Bonds Consumers Leading Indexes November 3, 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

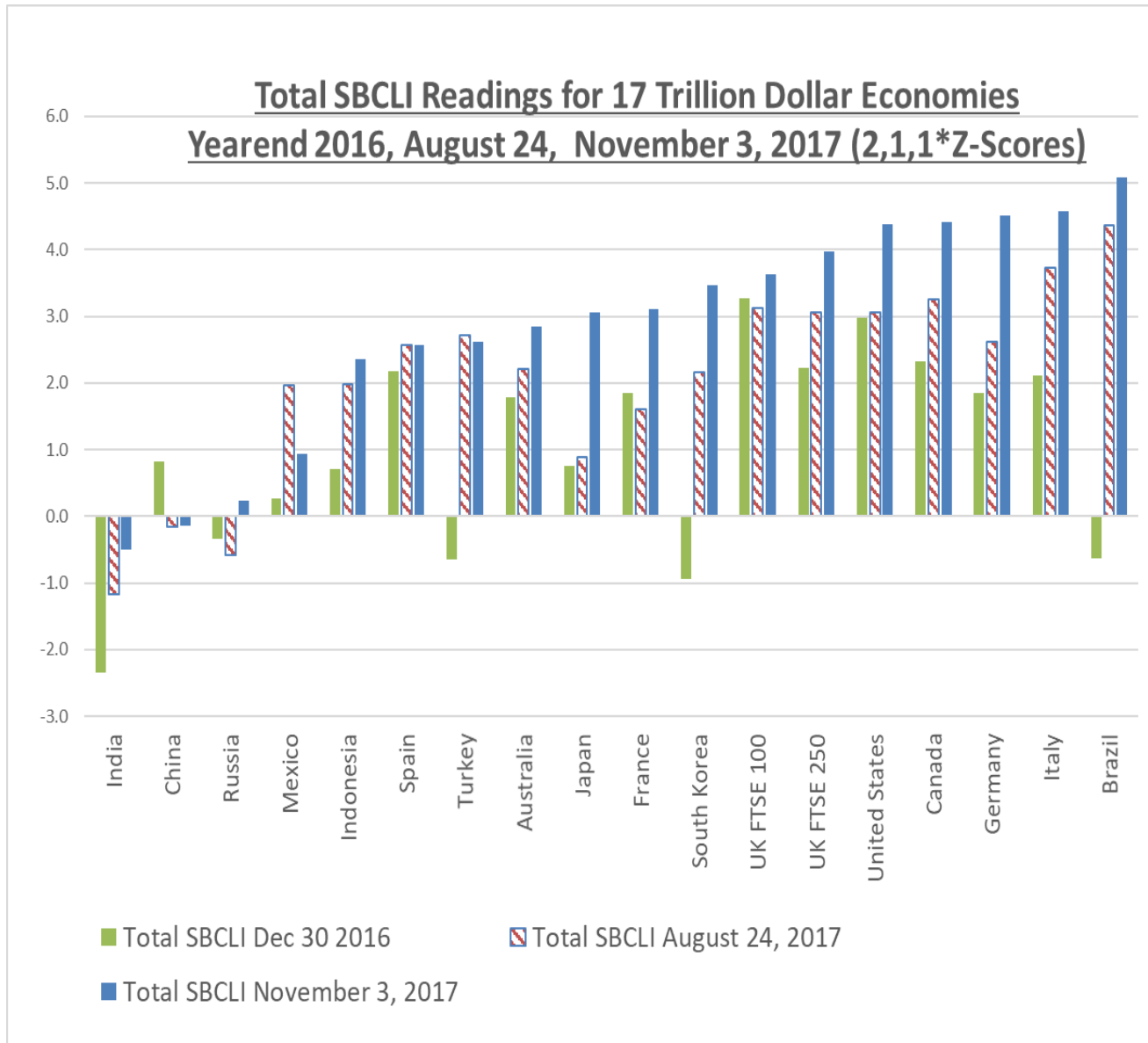
Stocks, Bonds, Consumers Leading Index (SBCLI) Updated for Stock Price, Consumer Spending and Bond Yield Spread Moves										11/5/2017 8:34		Based on Last 2 Quarters Data							
Brexit voting day	6/23/2016	0.4	1.6	-2.2	0.5	-1.0	-0.5	1.3	0.5	-0.4	-2.4	-0.8	-1.2	0.0	-1.3	-0.2	-4.0	-0.5	0.2
PostBrexit Low	6/27/2016	-0.9	0.9	-2.8	-0.2	-2.8	-2.1	-0.6	-1.2	-1.8	-3.1	-1.3	-1.8	-0.6	-1.8	-0.6	-4.5	-0.6	-3.0
Recent data: Pre U.S. Election	11/4/2016	0.1	2.1	0.9	0.6	-1.0	-0.1	0.2	0.4	0.8	-2.0	-1.5	-0.6	-0.1	-1.2	0.4	-3.4	0.7	0.2
Q4 2016 Average	Avg Q4 2016	2.3	1.6	-1.0	0.6	0.7	0.8	0.9	1.6	2.3	-1.8	-0.7	-0.1	1.0	-1.0	0.6	-2.5	0.7	1.5
Year End 2016: Trump elected	12/30/2016	3.0	2.3	-0.6	0.3	1.9	1.8	2.1	2.2	3.3	-0.3	-0.7	0.8	1.8	-0.9	0.8	-2.3	0.7	2.2
Recent Data: Global Strength	8/24/2017	3.1	3.3	4.4	2.0	1.6	2.6	3.7	2.6	3.1	-0.6	2.7	0.9	2.2	2.2	-0.2	-1.2	2.0	3.1
Most Recent: Stock Highs, Normalize	11/3/2017	4.4	4.4	5.1	0.9	3.1	4.5	4.6	2.6	3.6	0.2	2.6	3.1	2.8	3.5	-0.1	-0.5	2.4	4.0

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	0.6	0.6	-3.2	0.2	-0.5	-1.0	-0.1	-0.1	-0.4	-3.0	-1.3	-2.3	-0.5	-1.4	-0.6	-3.8	-0.3	-0.1
PostBrexit Low	6/27/2016	0.0	0.2	-3.5	-0.2	-1.4	-1.8	-1.0	-0.9	-1.1	-3.3	-1.5	-2.6	-0.8	-1.7	-0.7	-4.1	-0.4	-1.7
Recent data: Pre U.S. Election	11/4/2016	1.0	1.4	-1.2	0.4	-0.2	-1.0	-0.6	0.1	0.8	-2.2	-1.0	-1.8	-0.2	-1.5	-0.3	-3.4	0.6	0.8
Q4 2016 Average	Avg Q4 2016	2.1	1.1	-2.1	0.4	0.6	-0.6	-0.3	0.7	1.5	-2.1	-0.6	-1.6	0.4	-1.4	-0.2	-3.0	0.7	1.5
Year End 2016: Trump elected	12/30/2016	2.4	1.5	-1.9	0.2	1.2	0.0	0.3	1.0	2.0	-1.4	-0.6	-1.1	0.8	-1.4	-0.1	-2.9	0.6	1.9
Recent Data: Global Strength	8/24/2017	3.0	2.8	1.9	1.1	1.7	2.2	2.9	2.4	3.2	-0.5	1.0	0.8	2.0	0.6	0.3	-1.8	1.3	2.6
Most Recent: Stock Highs, Normalize	11/3/2017	3.7	3.4	2.2	0.6	2.5	3.2	3.3	2.4	3.5	-0.1	1.0	1.9	2.3	1.3	0.3	-1.4	1.5	3.1

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

Forecasting accuracy of SBCLI from the last 2 Quarters of data is similar to that based on the last 4 quarters, some variables better, some worse. I prefer using the less volatile forecasts based upon the 4 quarters data for forecasting (2, 2-quarter nonoverlapping periods moving averages). However, the most recent 2-quarter results are a leading indicator of the 4-quarter results, so we should examine them for early signals of changes in growth trends.

# Total SBCLI Readings Yearend 2016, November 3, 2017



Overall, total SBCLI indicators are quite strong and growing globally, foretelling continued strong global economic growth. Using the last 2 quarters' data, Strong signals of +3.0 to +5.0 for well above-trend growth in the coming year are best in Brazil, Italy, Germany, Canada, USA, UK, S. Korea, France, Japan, Australia, in order.

Considering the more stable forecasts using the last 4 quarters of data (see prior slide), forecasts are strongest (above trend most) for: USA, UK, Canada, Italy, Germany, France, Spain, Australia and Brazil.

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

## Stocks, Bonds, Consumers Leading Indicators (SBCLI®)

(2Q Returns, Growth)

Douglas T. Breeden, Duke University and Amundi Asset Management

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	United St Americas	Canada	Brazil	Mexico	France Europe	Germany	Italy	Spain FTSE 100	United Kingdo FTSE 250	Russia	Turkey	Japan AustralAsia	Australia	South Kor	China	India	Indonesia	United Kingdom FTSE 250
2006-Q4	-1.3	-1.2	1.6	2.4	-2.0	0.5	0.8	1.6	-1.9	2.5	-2.4	-0.3	-0.3	-0.9	1.6	1.6	3.4	
2007-Q1	-0.9	-0.8	3.9	3.3	0.2	-0.6	1.5	1.9	-0.9	3.1	-0.8	1.8	3.2	-0.2	2.6	1.9	4.0	
2007-Q2	-2.8	0.1	4.3	3.0	0.3	-1.7	0.6	-0.4	-0.3	2.7	0.0	1.0	2.6	0.7	3.0	0.8	3.4	
2007-Q3	-2.9	0.2	3.0	1.4	-1.1	-0.5	-1.6	-1.4	-1.2	2.5	0.9	-1.5	-0.4	2.3	0.7	2.5	4.4	
2007-Q4	-3.1	0.5	3.5	-0.5	-3.6	-3.3	-3.1	-0.9	-2.6	3.0	0.7	-2.6	-0.1	0.7	-1.6	4.6	5.1	
2008-Q1	-4.4	0.9	3.3	-0.9	-7.1	-5.1	-4.2	-2.1	-4.7	1.6	-2.5	-2.7	-4.1	-3.5	-3.6	2.1	3.1	
2008-Q2	-3.4	-1.5	2.0	0.3	-7.1	-5.5	-3.8	-4.4	-5.2	1.2	-4.2	-2.8	-7.3	-4.2	-3.9	-2.1	-1.3	
2008-Q3	-3.6	-2.5	0.8	-1.3	-5.8	-4.8	-4.0	-5.7	-6.2	-0.1	-3.6	-2.8	-7.2	-4.5	-2.7	-4.5	-3.6	
2008-Q4	-7.4	-7.3	-4.1	-6.4	-8.5	-7.3	-6.6	-6.7	-9.6	-4.4	-5.8	-5.6	-7.9	-9.2	-0.4	-5.9	-6.6	
2009-Q1	-6.2	-6.4	-3.5	-7.6	-5.6	-4.0	-6.5	-5.0	-6.5	-5.4	-4.3	-5.6	-5.6	-4.9	0.7	-6.6	-3.1	
2009-Q2	0.3	3.2	5.6	-1.4	1.3	2.0	-1.3	-2.4	-0.7	1.6	1.0	0.8	1.9	5.0	3.3	0.5	4.1	
2009-Q3	4.5	7.1	7.3	5.3	5.3	3.3	3.5	2.1	3.8	1.7	5.5	3.6	6.0	7.6	3.7	3.8	5.3	
2009-Q4	4.0	4.8	3.6	5.4	5.8	3.1	3.4	3.1	6.7	-0.1	3.6	1.1	4.7	3.8	2.1	1.1	1.3	
2010-Q1	1.4	3.6	1.7	2.3	4.3	2.8	1.0	-0.8	3.6	0.8	1.0	0.8	2.2	1.5	1.7	0.6	-0.6	
2010-Q2	1.3	2.6	0.0	0.7	0.5	1.4	-1.4	-2.8	1.1	-0.4	0.7	0.9	-0.2	0.6	1.2	-0.7	-0.1	
2010-Q3	0.6	1.1	0.4	0.7	-0.5	0.5	-0.6	-2.6	0.6	-0.7	0.7	-0.2	-0.7	1.0	0.0	-1.9	-0.7	
2010-Q4	2.7	2.2	2.4	2.3	1.8	1.9	0.9	-1.6	0.5	0.7	1.1	-1.0	0.4	1.7	0.2	-0.3	0.4	
2011-Q1	4.2	2.3	1.5	1.8	3.5	3.8	1.0	-1.8	1.4	1.5	-0.1	-1.6	1.3	1.6	0.3	-0.3	0.0	
2011-Q2	1.1	0.0	0.2	0.2	-1.4	0.0	-0.2	-2.1	-0.5	0.2	-1.4	-1.2	-0.4	-0.2	-1.2	-0.6	-0.1	
2011-Q3	-1.5	-1.6	-1.8	1.0	-5.6	-3.0	-3.7	-3.3	-2.5	-1.0	-1.7	-0.1	-3.2	-2.9	-3.0	-1.1	1.4	
2011-Q4	-1.4	-1.5	-2.4	0.5	-4.3	-2.9	-6.1	-4.4	-1.7	-1.4	-2.7	-0.3	-4.0	-4.1	-3.8	-2.9	-0.5	
2012-Q1	1.0	0.0	1.0	1.0	-0.1	0.3	-3.8	-2.3	1.7	-0.4	-1.7	0.1	-1.1	-1.4	-3.5	-2.1	-0.9	
2012-Q2	0.9	-0.7	0.5	1.3	0.6	0.9	-3.1	-3.2	0.8	-0.5	-0.8	0.6	-0.6	-1.2	-3.1	-2.5	1.1	
2012-Q3	-0.9	-1.1	-0.7	1.1	-1.0	-0.2	-2.4	-3.3	-0.7	-1.0	0.1	-1.1	-2.4	-2.1	-2.9	-3.4	1.2	
2012-Q4	0.0	0.6	0.5	1.3	1.6	1.1	0.0	-0.8	1.1	-0.4	1.0	-0.8	-1.0	-0.9	-2.8	-2.2	0.8	
2013-Q1	0.7	0.7	0.2	1.8	1.5	0.8	-0.5	-0.8	2.3	0.1	0.6	3.4	1.2	-1.7	-1.8	-1.4	0.9	
2013-Q2	0.3	0.5	-0.5	-0.3	1.0	0.7	-1.1	-0.8	1.9	-0.7	-0.1	6.0	0.5	-2.1	-2.0	-1.6	1.2	
2013-Q3	0.5	0.9	0.1	-1.1	0.9	1.6	-0.2	-0.2	1.3	-0.6	-2.3	1.7	1.2	-0.9	-1.6	-2.6	-0.6	
2013-Q4	1.9	1.2	0.1	0.0	1.9	0.7	1.8	2.1	1.5	0.4	-2.2	-1.0	2.3	0.1	-1.3	-2.5	-1.7	
2014-Q1	2.1	0.9	0.6	-0.4	0.5	0.8	2.4	2.2	1.4	-0.2	-2.6	0.8	1.4	-0.6	-1.2	-2.1	-0.4	
2014-Q2	1.6	1.0	0.3	1.0	-0.3	0.2	1.7	1.0	1.1	-1.1	-1.0	-3.7	0.8	-1.9	-1.4	-1.9	0.4	
2014-Q3	2.8	1.1	0.6	2.0	0.9	-1.0	0.2	0.7	1.5	-0.9	1.1	-4.7	0.9	-1.2	-1.1	-1.0	-0.4	
2014-Q4	3.4	-0.6	0.5	0.2	-1.0	-0.8	-1.1	-0.4	0.0	-1.1	-0.5	0.9	-0.6	-1.4	-0.4	-1.1	-1.4	
2015-Q1	3.0	-2.1	-3.1	-0.4	0.3	0.9	1.1	0.3	0.3	-2.2	-0.6	1.1	-0.2	-1.8	0.2	-1.5	-1.3	
2015-Q2	2.5	-0.9	-4.5	0.7	2.2	1.7	4.1	1.8	2.3	-2.5	-1.3	0.7	1.0	-0.6	1.6	-1.8	-1.0	
2015-Q3	1.5	-0.4	-4.7	0.4	-0.1	-1.2	2.4	0.9	0.0	-4.2	-2.4	-0.7	-0.8	-1.0	-0.4	-2.3	-2.1	
2015-Q4	1.1	-0.8	-4.8	-0.1	-1.2	-1.5	0.4	-0.2	-0.8	-4.5	-2.0	-2.1	-1.3	-0.7	-1.1	-3.0	-1.8	
2016-Q1	0.9	-0.5	-4.2	-0.1	0.0	-1.4	-1.5	-0.7	-0.4	-3.5	-1.7	-3.4	-1.0	-1.5	-0.9	-3.7	-0.1	
2016-Q2	1.9	0.7	-3.2	0.2	0.6	-1.9	-1.4	-0.3	0.8	-2.4	-0.5	-3.0	-0.2	-1.8	-1.1	-3.5	0.6	0.8
2016-Q3	3.2	1.6	-1.1	1.4	-0.9	-0.6	0.2	1.1	2.6	-2.1	-0.1	-1.6	0.3	-0.7	-0.4	-2.4	1.1	0.9
2016-Q4	2.3	1.6	-1.0	0.6	0.7	0.8	0.9	1.6	2.3	-1.8	-0.7	-0.1	1.0	-1.0	0.6	-2.5	0.7	1.5
06/23/16	0.4	1.6	-2.2	0.5	-1.0	-0.5	1.3	0.5	-0.4	-2.4	-0.8	-1.2	0.0	-1.3	-0.2	-4.0	-0.5	0.2
06/27/16	-0.9	0.9	-2.8	-0.2	-2.8	-2.1	-0.6	-1.2	-1.8	-3.1	-1.3	-1.8	-0.6	-1.8	-0.6	-4.5	-0.6	-3.0
11/04/16	0.1	2.1	0.9	0.6	-1.0	-0.1	0.2	0.4	0.8	-2.0	-1.5	-0.6	-0.1	-1.2	0.4	-3.4	0.7	0.2
avg Q4 201	2.3	1.6	-1.0	0.6	0.7	0.8	0.9	1.6	2.3	-1.8	-0.7	-0.1	1.0	-1.0	0.6	-2.5	0.7	1.5
12/30/16	3.0	2.3	-0.6	0.3	1.9	1.8	2.1	2.2	3.3	-0.3	-0.7	0.8	1.8	-0.9	0.8	-2.3	0.7	2.2
08/24/17	3.1	3.3	4.4	2.0	1.6	2.6	3.7	2.6	3.1	-0.6	2.7	0.9	2.2	2.2	-0.2	-1.2	2.0	3.1
11/03/17	4.4	4.4	5.1	0.9	3.1	4.5	4.6	2.6	3.6	0.2	2.6	3.1	2.8	3.5	-0.1	-0.5	2.4	4.0

**Stocks, Bonds, Consumers Leading Indicators (SBCLI®)**

Douglas T. Breeden, Duke University and Amundi Pioneer

(2Q Returns, Growth)

11/5/2017 8:34

**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	0.4	-0.6
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	0.4	-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	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	1.0	1.0
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	0.6	0.6
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	-2.3	-2.3
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	0.5	0.5
Avg Q4 2016	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	1.0	1.0
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	1.5	1.5
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	3.5	3.5
11/3/2017	3.9	2.5	5.0	0.4	3.6	4.3	3.3	1.9	4.0	1.2	3.3	3.8	1.9	3.7	0.6	2.7	2.2	4.4	4.4

**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	
Variable	Slope	Slope	Credit	Credit	Slope	Slope	Slope	Slope	Slope	Credit	Credit	Slope	Slope	Slope	Credit	Credit	Credit	Slope	
Z Multiplier	1	1	1	1	1	1	0	0	1	1	1	1	1	1	2	1	1	1	1
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	0.0	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	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	-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	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	-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	-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	-0.1
Avg Q4 2016	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	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	0.4
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	-0.1
11/3/2017	-0.3	-0.4	0.2	0.1	-0.4	-0.5	0.0	0.0	-0.1	-0.8	-0.1	-1.4	1.2	0.1	-1.3	-1.3	0.7	-0.1	-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	2.4	2.0	-1.3	0.2	2.2	0.7	0.8	1.8	1.0	-1.6	-0.6	-0.4	0.4	0.0	0.6	-1.8	-0.1	1.0	1.0
2016-Q2	2.3	1.4	-2.3	-0.2	2.7	0.1	1.1	1.7	1.3	-1.0	-0.4	0.4	0.0	-0.5	0.6	-2.1	-0.1	1.3	1.3
2016-Q3	2.0	0.7	-2.6	0.3	0.1	0.1	1.5	1.6	0.9	-0.9	-0.3	0.4	-0.6	-0.2	0.5	-2.1	-0.2	0.9	0.9
2016-Q4	1.8	1.0	-1.7	0.7	0.7	0.8	1.3	1.7	0.4	-0.9	-0.2	0.3	0.2	-0.4	0.6	-1.5	-0.3	0.4	0.4
2017-Q1	0.5	1.2	-1.8	0.3	0.7	0.5	1.3	1.1	-0.1	-0.7	-0.2	0.1	0.3	-0.6	0.4	-1.1	-0.6	-0.1	-0.1
2017-Q2	0.7	2.3	0.0	0.5	-0.1	0.7	1.3	0.6	-0.3	-0.1	-0.6	0.7	-0.2	-0.3	0.7	-2.0	-0.5	-0.3	-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				Kingdom				AustralAsia					Kingdom	
2016-Q1	0.9	-0.5	-4.2	-0.1	0.0	-1.4	-1.5	-0.7	-0.4	-3.5	-1.7	-3.4	-1.0	-1.5	-0.9	-3.7	-0.1	0.8	0.8
2016-Q2	1.9	0.7	-3.2	0.2	0.6	-1.9	-1.4	-0.3	0.8	-2.4	-0.5	-3.0	-0.2	-1.8	-1.1	-3.5	0.6	0.8	0.8
2016-Q3	3.2	1.6	-1.1	1.4	-0.9	-0.6	0.2	1.1	2.6	-2.1	-0.1	-1.6	0.3	-0.7	-0.4	-2.4	1.1	1.1	1.1
2016-Q4	2.3	1.6	-1.0	0.6	-0.7	0.8	0.9	1.6	2.3	-1.8	-0.7	-0.1	1.0	-1.0	0.6	-2.5	0.7	1.5	1.5
6/23/2016	1.4	0.3	-3.9	0.7	-0.2	-0.4	1.3	1.5	0.2	-3.1	-0.4	-1.5	0.4	-1.3	-0.3	-3.5	-0.3	0.8	0.8
6/27/2016	0.2	-0.4	-4.5	0.0	-2.0	-2.0	-0.6	-0.2	-1.2	-3.8	-0.8	-2.2	-0.3	-1.9	-0.6	-3.9	-0.5	-2.4	-2.4
11/4/2016	1.2	0.8	-0.8	0.8	-0.2	-0.1	0.2	1.4	1.4	-2.8	-1.1	-0.9	0.2	-1.3	0.3	-2.9	0.9	0.8	0.8
Avg Q4 2016	2.3	1.6	-1.0	0.6	0.7	0.8	0.9	1.6	2.3	-1.8	-0.7	-0.1	1.0	-1.0	0.6	-2.5	0.7	1.5	1.5
12/30/2016	3.0	2.3	-0.6	0.3	1.9	1.8	2.1	2.2	3.3	-0.3	-0.7	0.8	1.8	-0.9	0.8	-2.3	0.7	2.2	2.2
8/24/2017	3.1	3.3	4.4	2.0	1.6	2.6	3.7	2.6	3.1	-0.6	2.7	0.9	2.2	2.2	-0.2	-1.2	2.0	3.1	3.1
11/3/2017	4.4	4.4	5.1	0.9	3.1	4.5	4.6	2.6	3.6	0.2	2.6	3.1	2.8	3.5	-0.1	-0.5	2.4	4.0	4.0