

# The FCO Cockpit – Global Bubble Status Report

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Chair of Entrepreneurial Risk

October 1st, 2016

# The FCO Cockpit – Global Bubble Status October 1st, 2016

## *What is this?*

This monthly report discusses the historical evolution of bubbles in and between different asset classes and geographies.

It is the result of an extensive analysis done on the historical time series of 431 systemic assets and 854 single stocks. The systemic assets are bond, equity and commodity indices and a selection of currency pairs. The single stocks are mainly US and European, equities. The data is from Thomson Reuters.

In the first part of this report, we present the state of the world, based on the analysis of the systemic assets. In the second part, we zoom in on the bubble behavior of single stocks and discuss some specific cases.

\* For an intuitive explanation of the methodology and the specifics of the indicators that are used in this report, we refer to: D. Sornette and P. Cauwels, *Financial bubbles: mechanisms and diagnostics*. *Review of Behavioral Economics* 2 (3), 279-305 (2015) (<http://arxiv.org/abs/1404.2140> and <http://ssrn.com/abstract=2423790>)

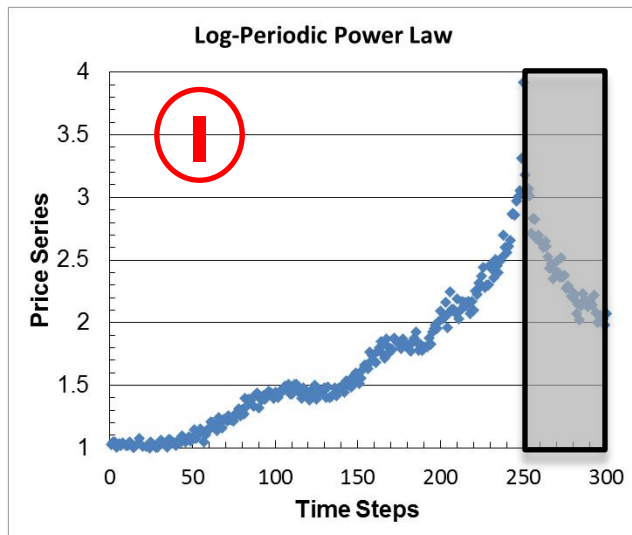
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*How does it work?*

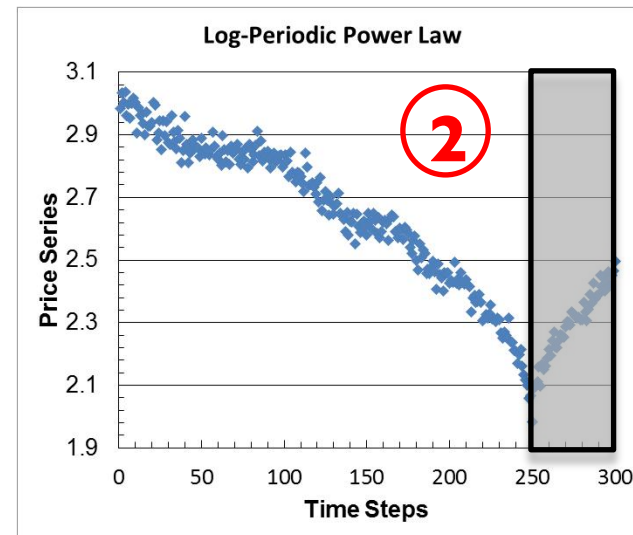
We use the Log-Periodic Power Law Singular (LPPLS) model to hunt for the distinct fingerprint of **Bubbles**:

1. The price rises **faster than exponentially**, so the logarithm of the price rises faster than linearly;
2. There are **accelerating oscillations**, with a distinct characteristic.

A bubble signal is identified if both of our bubble indicators, LPPL-Confidence and LPPL-Trust, are larger than 5%.



A **positive bubble** when  
there is imitation in **buying**

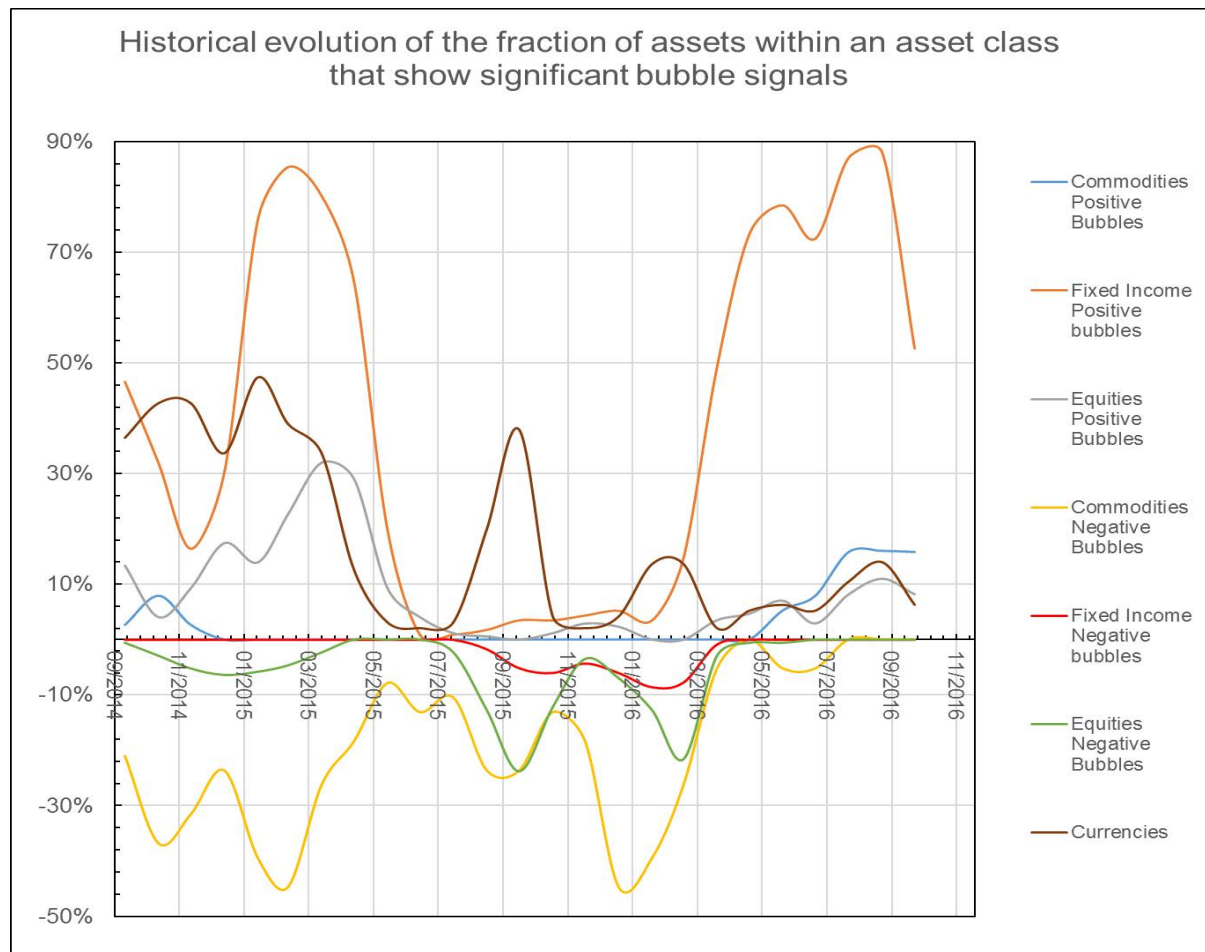


A **negative bubble** when  
there is imitation in **selling**

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## General Result

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## *The big picture*

*Bonds prices across all sectors and regions are still feeling a strong tail wind, however, they are cooling down. A very strong momentum has lifted the entire asset class. Given the remaining high level of warning signals, the fixed income sector is still showing a bubble-like behavior.*

A global shift is seen. The very strong negative bubble signals in commodities and in related stocks and currencies that was seen over the past half year have disappeared. In addition, for the fourth consecutive month we see positive bubble signals in commodities indices.

*Market focus is still on bonds.*

*A positive bubble signal is an indication of herding when people start buying because prices go up.*

*A negative bubble signal is an indication of herding when people start selling because prices go down.*

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*Other interesting highlights from this report*

- From April to August, we reported that there was a strong rally in the Japanese government bonds and in the yen cross rates, and the results suggested that this process was not sustainable. The rally in the Japanese government bonds cooled down last month and was not showing a bubble signal anymore. This month, the yen has joined this “cooling”;
- Over the last six months, we reported that the strong negative sentiment in commodities was turning and that the asset class was touching bottom. This is further confirmed in this report by having positive bubble signals in six commodity indices for the third consecutive month and for the first time in nearly two years;
- There is no general trend in equities. The most interesting result is found again in Lithuania and Vietnam stock market indices, which are showing sign of a positive bubble for the fifth consecutive month and in India and Philippine stock market indices, which are showing sign of a positive bubble for the third consecutive month. In addition, the Pakistan stock market index, which stopped showing sign of a positive bubble last month, joined them again;
- In our analysis of single stocks, the positive bubble signals we reported before in non-cyclical/defensive sectors have overall decreased this month, showing that corrections have started recently. The sector Semiconductors & Semiconductor Equipment we recommended last month has a higher bubble score, which demonstrates that this sector is still attracting investors because of recent high expectation of sector revenues and development of new technologies.

*A positive bubble signal is an indication of herding when people start buying because prices go up.*

*A negative bubble signal is an indication of herding when people start selling because prices go down.*

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## Results per Asset Class

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## Government bonds

Positive Bubbles	Yearly Return	DS LPPL Trust	DS LPPL Confidence
iBoxx Asia India Government Index	13.0%	59.2%	58.1%
iBoxx Asia Malaysia Government Index	7.9%	50.8%	31.9%
iBoxx EUR Ireland Index	6.1%	50.7%	18.5%
iBoxx EUR Spain Index	8.0%	47.5%	17.7%
iBoxx GBP Sovereigns Index	10.7%	40.0%	24.3%
iBoxx EUR Slovakia Index	5.8%	39.6%	24.7%
Negative Bubbles			
None			

Of the 34 government bond indices that were analyzed, 24 now show positive bubble signals, that is 71% of the set, down from 85% last month, showing that the positive bubble signals in the government bonds are cooling down a bit;

The table above shows the indices with the six strongest signals, all are still in Asia and Europe;

The figure on the next page shows the remarkable bubble in the Indian sovereign bonds. As mentioned in the last report, the fast growing price trajectory that was seen in the first quarter of 2016 is still growing, but also with some sign of deceleration and increased volatility.



Daily .IBBAS0049

4/2/2016 - 10/10/2016 (GMT)

Line, .IBBAS0049, Last Quote(Last)  
9/30/2016, 246.67920, N/A, N/A

## Indian Government Bond Index



Source: Thomson Reuters

Auto

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## Corporate bonds

Sector Indices	Yearly Return	DS LPPL Trust	DS LPPL Confidence
<b>Positive Bubbles</b>			
iBoxx EUR Banks Senior Index	5.0%	63.4%	54.1%
iBoxx EUR Media Index	9.5%	61.0%	33.8%
iBoxx EUR Banks Index	5.3%	51.3%	52.8%
iBoxx EUR Industrial Goods & Services Index	7.3%	50.0%	32.4%
iBoxx EUR Financial Services Index	6.3%	45.7%	21.5%
iBoxx EUR Financial Services Senior Index	5.6%	45.0%	23.3%
iBoxx EUR Technology Index	9.6%	42.8%	21.2%
iBoxx EUR Chemicals Index	6.4%	40.4%	25.3%
<b>Negative Bubbles</b>			
None			

The positive bubble signals are not only cooling down across government bonds, but also across sector indices: 37 of the 82 corporate bond indices that were analyzed are showing positive bubble signals, that is only 45% of the set compared to 89% last month;

The table above shows the indices with the eight strongest signals, half of them are still in the financial services sector.

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## Commodities

<b>Positive Bubbles</b>			
White Sugar ER Index	50.8%	18.8%	30.6%
Zinc ER Index	13.4%	15.1%	38.9%
Silver ER Index	36.5%	12.0%	38.3%
Softs ER Index	21.0%	8.8%	23.8%
Sugar ER Index	53.3%	7.9%	19.8%
Robusta Coffee ER Index	2.1%	5.2%	10.4%
<b>Negative Bubbles</b>			
None			

For the third consecutive month and nearly for the first time in two years, we see a positive bubble signals among six commodities indices. It is interesting to see that all the indices that are showing the bubble signals are either metals or agriculture indices;

In addition, the White Sugar and softs indices which stopped showing a positive bubble signal last month returned back again to show the same signal;

Over the last five reports, we reported that the strong negative momentum in commodities was turning and that the asset class was touching bottom. This is further confirmed in this report. No single index among the 38 analyzed show negative bubble signals;

The S&P Goldman Sachs Commodity Index (next page) shows that the remarkable rebound (diagnosed early on by our FCO indicators, see next slide) in commodities that started last February seems to converge to a plateau.

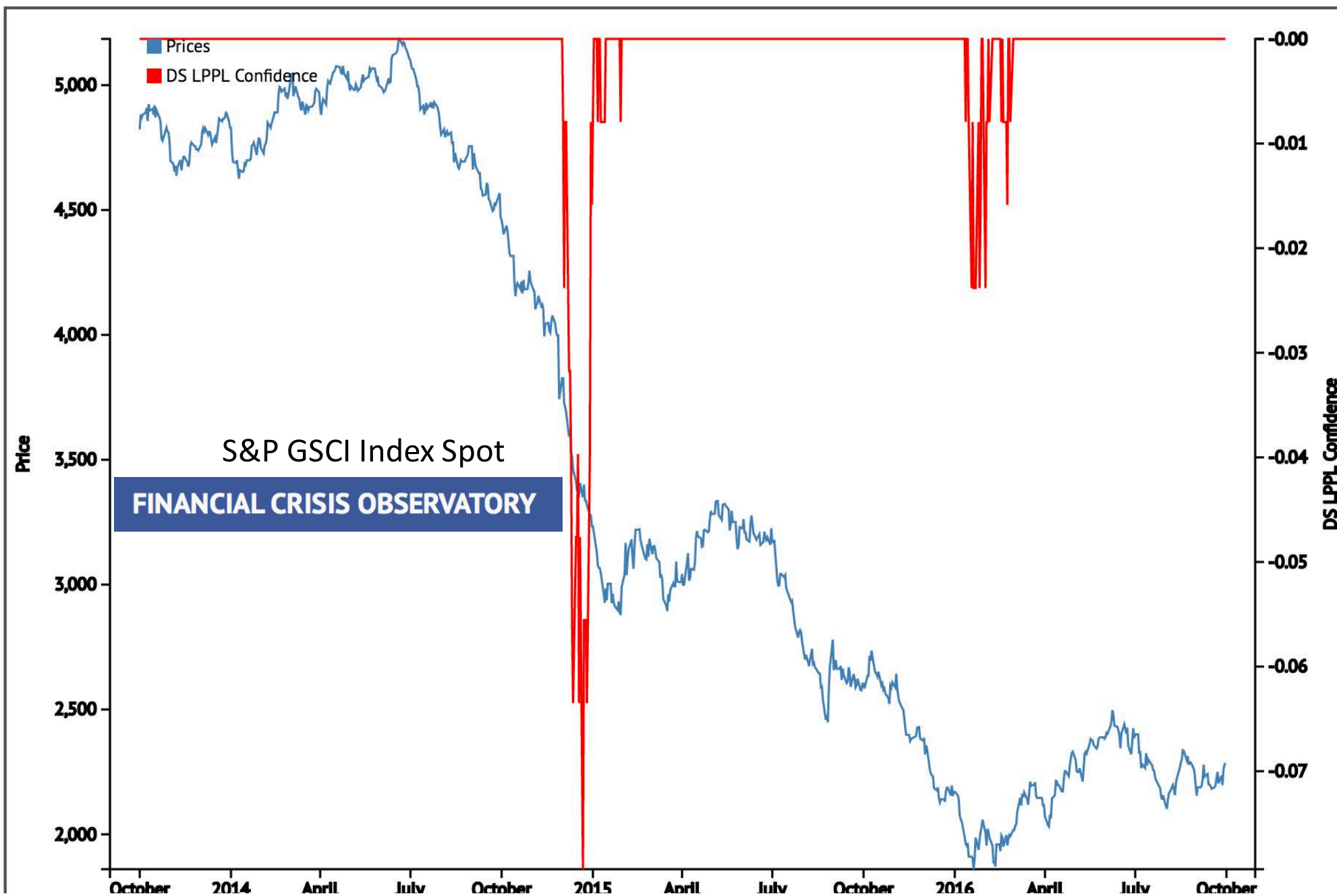
## DS Bubble Inspectors Viewer - "Bubble end flag - long time scale"

Date: 2016-10-01

Name: S&P GSCI Commodity 1

Indicator: DS LPPL Confidence

Bubble end flag - long time scale



1D

3D

1W

1M

6M

1Y

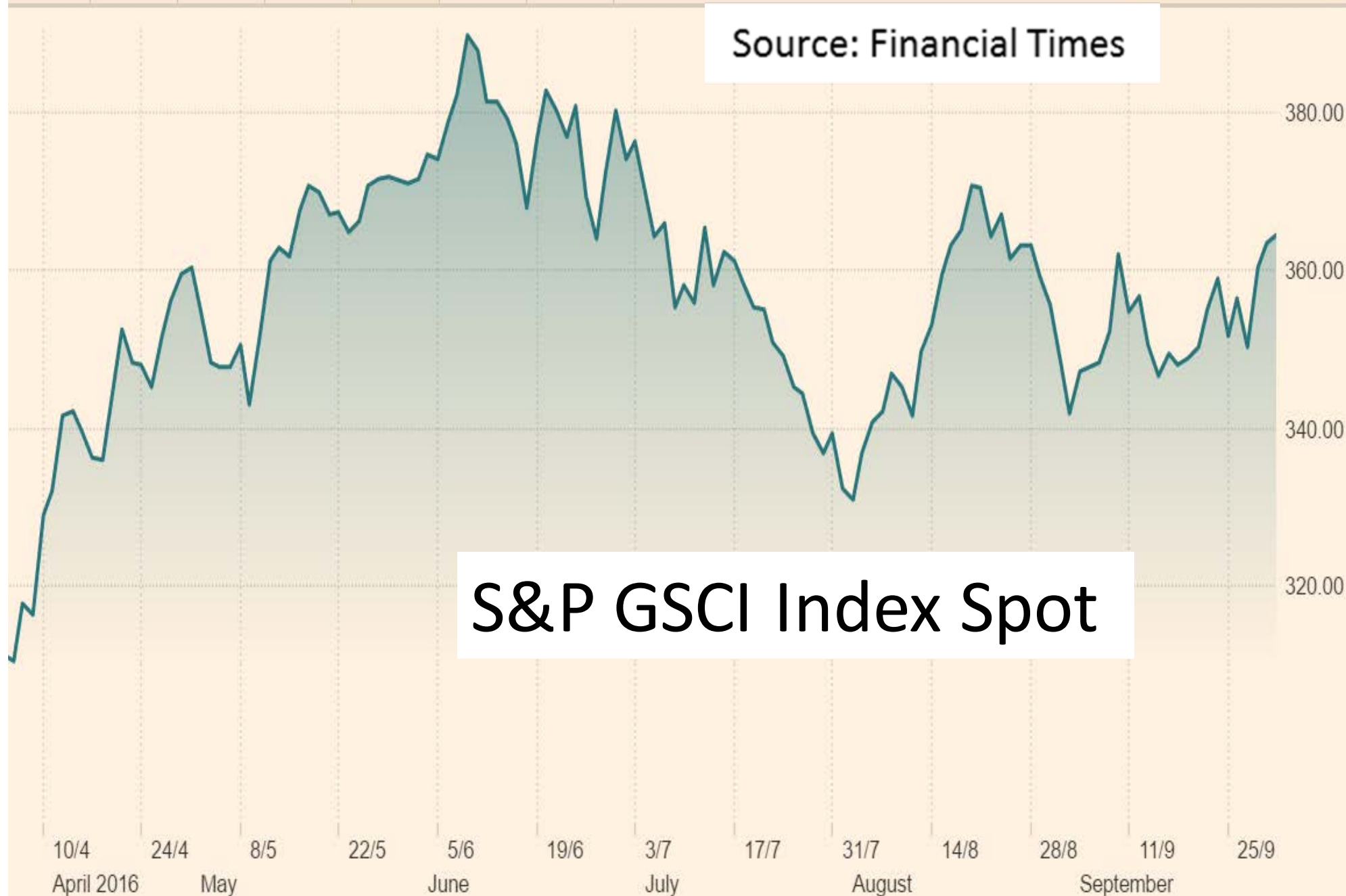
3Y

5Y

Comparisons &gt;

Source: Financial Times

S&amp;P GSCI Index Spot



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## Currencies

FX	Yearly Return	DS LPPL Trust	DS LPPL Confidence
Iceland Krona/Euro	11.3%	50.7%	70.1%
Iceland Krona/Swiss Franc	10.9%	28.9%	36.0%
US Dollar/Iceland Krona	-10.5%	17.0%	28.7%
New Zealand Dollar/US Dollar	14.0%	16.3%	8.5%
Korean Won/Swiss Franc	6.2%	8.8%	5.1%
US Dollar/Taiwan Dollar	-4.6%	6.7%	13.6%

For the sixth consecutive month, there are strong positive bubble signals in the Iceland Krona. Three of the six pairs that are showing bubble signals are crosses with the Krona;

For the third month, there are signs of a strong positive bubble in the New Zealand Dollar. This can further confirm the results on commodities. In the last five reports, we clearly saw that the bubble signals in the currencies of commodities exporting countries disappeared. This is again seen in this report;

For the first month, there are signs of a negative bubble on the USD/Taiwan Dollar and Swiss Franc /Korean Won exchange rates;

Finally, the positive bubble signals that were shown in the Japanese yen over the last four months, and the Brazilian Real over the last two months, disappeared.

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## Stocks country indices

Equities Countires Indices	Yearly Return	DS LPPL Trust	DS LPPL Confidence	Country
<b>Positive Bubbles</b>				
OMX Vilnius_GI	8.2%	18.3%	17.25%	Lithuania
Vietnam Index	4.1%	17.0%	28.4%	Vietnam
Karachi SE 100 Index	10.6%	12.2%	5.67%	Pakistan
CNX Nifty Index	2.6%	7.30%	19.9%	India
Philippine SE Composite Index	6.0%	6.50%	43.1%	Philippine
S&P BSE Sensex Index	1.3%	6.30%	21.0%	India
<b>Negative Bubbles</b>				
None				
<b>Equities Sector Indices</b>	<b>Yearly Return</b>	<b>DS LPPL Trust</b>	<b>DS LPPL Confidence</b>	
<b>Positive Bubbles</b>				
S&P 500 Food Products (Industry)	12.9%	13.9%	35.2%	
S&P 500 - Pharmaceuticals (Industry)	1.8%	9.5%	24.6%	
S&P 500 - Commercial Serv& Sup(Ind)	15.0%	8.8%	32.2%	
S&P 500 Tobacco (Industry)	20.3%	8.5%	20.7%	
S&P 500 Health Care Equip&Spls(Ind)	12.5%	8.4%	9.1%	
S&P 500 Multi-Utilities (Industry)	20.9%	7.3%	17.3%	
Dow Jones U.S. Select Dividend Index	14.0%	6.0%	9.2%	
Solactive Social Networks Index	7.7%	5.5%	13.6%	
<b>Negative Bubbles</b>				
None				

There is no general trend in equities. The most interesting result was found in Lithuania and Vietnam stock market indices, which are showing sign of a positive bubble for the fourth consecutive month and, in India and Philippine stock market indices, which are showing sign of a positive bubble for the third consecutive month. In addition, the Pakistan stock market index, which stopped showing sign of a positive bubble last month, joined them again;

Finally, Thailand, Indonesia, Canada, Chile, Croatia, United Kingdom and New Zealand stock market indices, which were showing sign of a positive bubble over the last month disappeared.

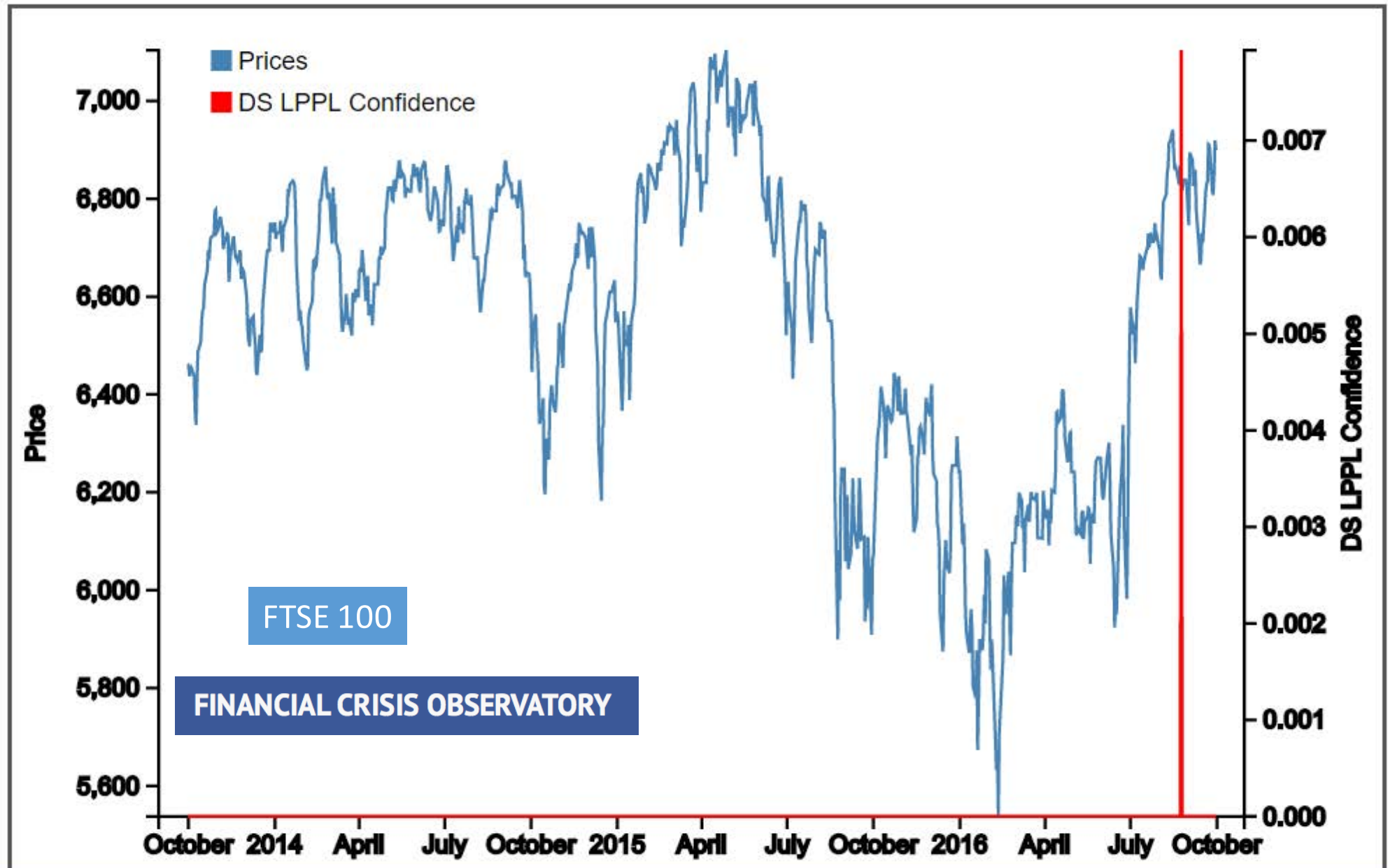


Date: 2016-09-30

Name: FTSE 100

Indicator: DS LPPL Confidence ▼

Bubble end flag - long time scale ▼





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## Single Stocks

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## *What is this?*

For 854 stocks, we calculate the bubble warning indicators as well as two financial strength indicators, which indicate the fundamental value of the stock and the growth capability respectively.

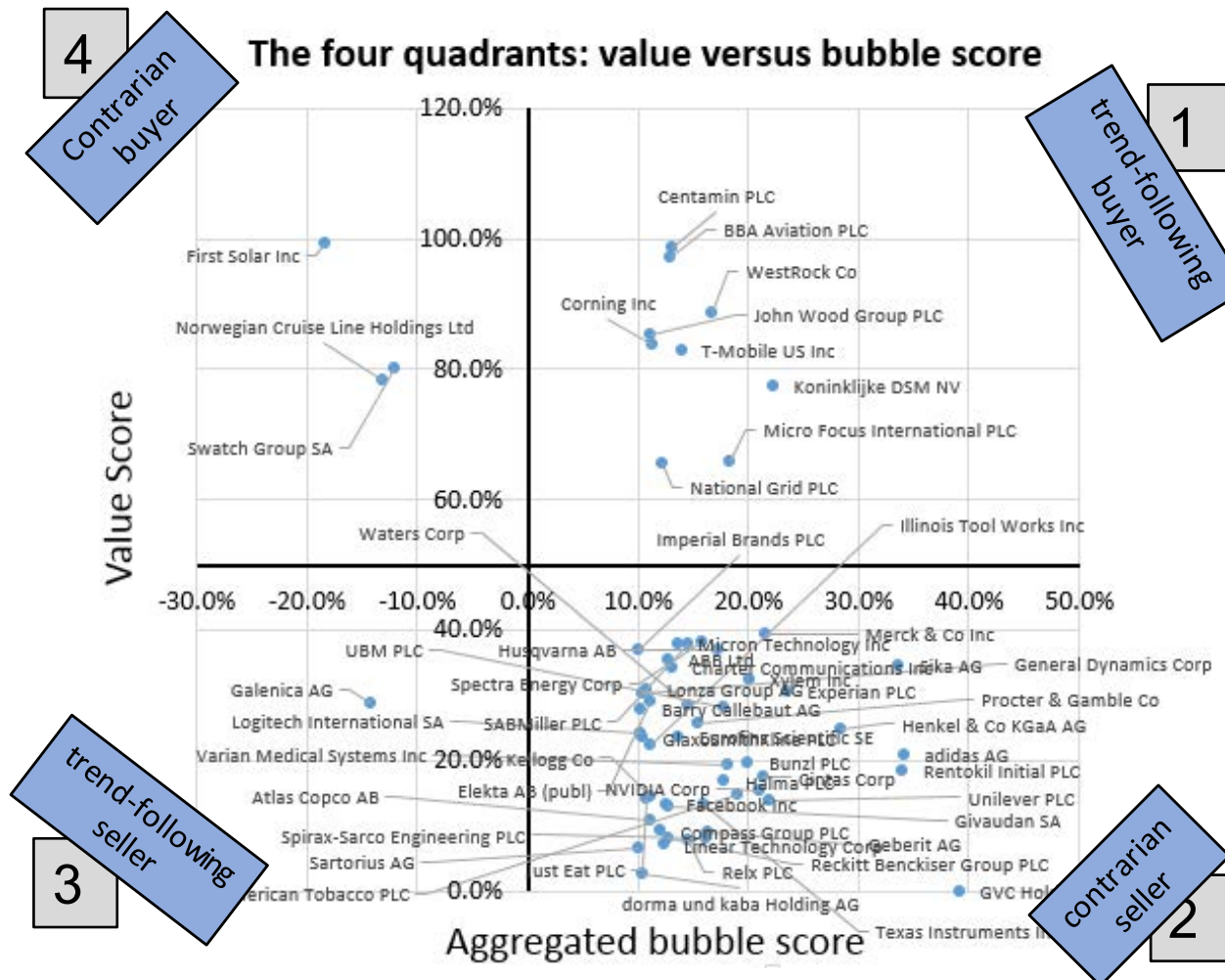
The stocks are the constituents of the Stoxx Europe 600, the S&P 500 and the Nasdaq 100 indices. From these, all doubles and stocks with incomplete data are removed. Because our financial strength indicators are specifically designed for corporates, all financial institutions are taken out of the set as well.

The two financial strength indicators are:

- A value score that is based on the ROIC (Return on Invested Capital) taking into account the EV (Enterprise Value) to normalize for high/low market valuations and/or high/low debt;
- A growth score that has characteristics similar to the PEG ratio, which is the Price to Earnings ratio normalized for expected EPS-growth (Earnings per Share).

Both scores give a value between zero and one, one being the best of the set and zero the worst, so the higher the score, the higher the financial strength.

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By plotting the value score against the aggregated bubble score, we can divide the stocks into four quadrants\*:

1. [Quadrant 1](#): Stocks with a strong positive bubble score and a strong value score (e.g. T-Mobile US Inc);
2. [Quadrant 2](#): Stocks with a strong positive bubble score and a weak value score (e.g. adidas AG);
3. [Quadrant 3](#): Stocks with a strong negative bubble score and a weak value score (e.g. Galenica AG);
4. [Quadrant 4](#): Stocks with strong negative bubble score and a strong financial strength (e.g. First Solar Inc)

\*A strong positive bubble signal is identified if bubble score is larger than 10%, and a strong negative bubble signal is identified if bubble score is smaller than -10%.  
A strong value score is identified if value score is larger than 60%, and a weak value score is identified if value score is smaller than 40%.

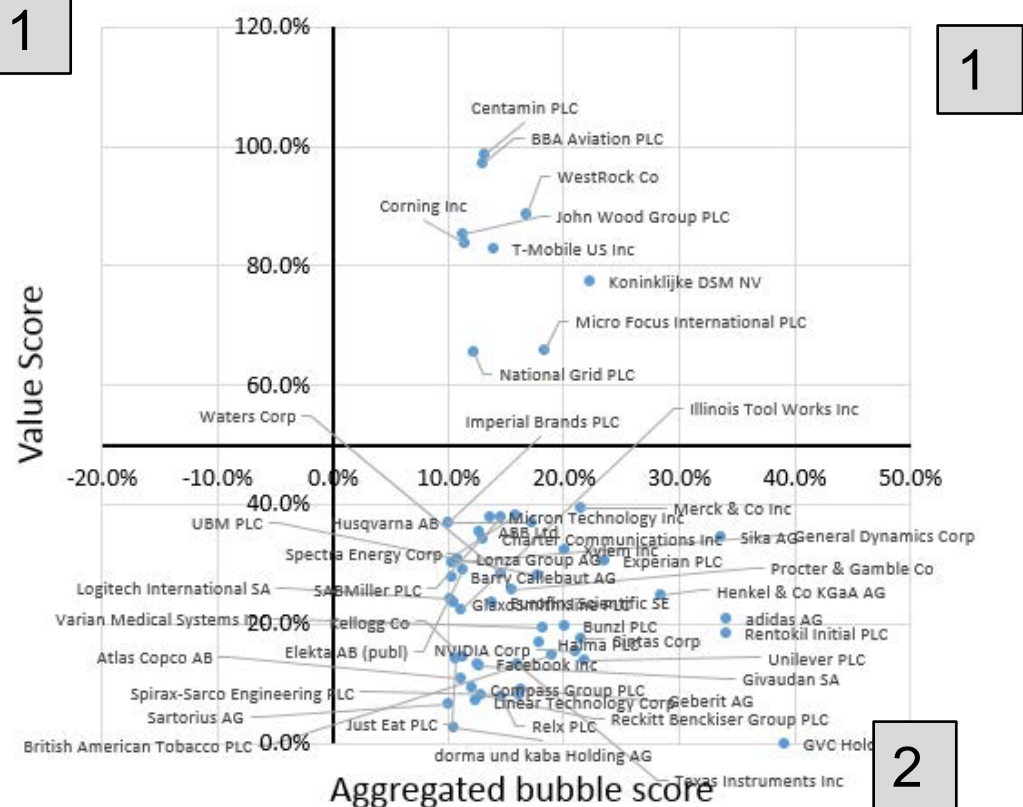
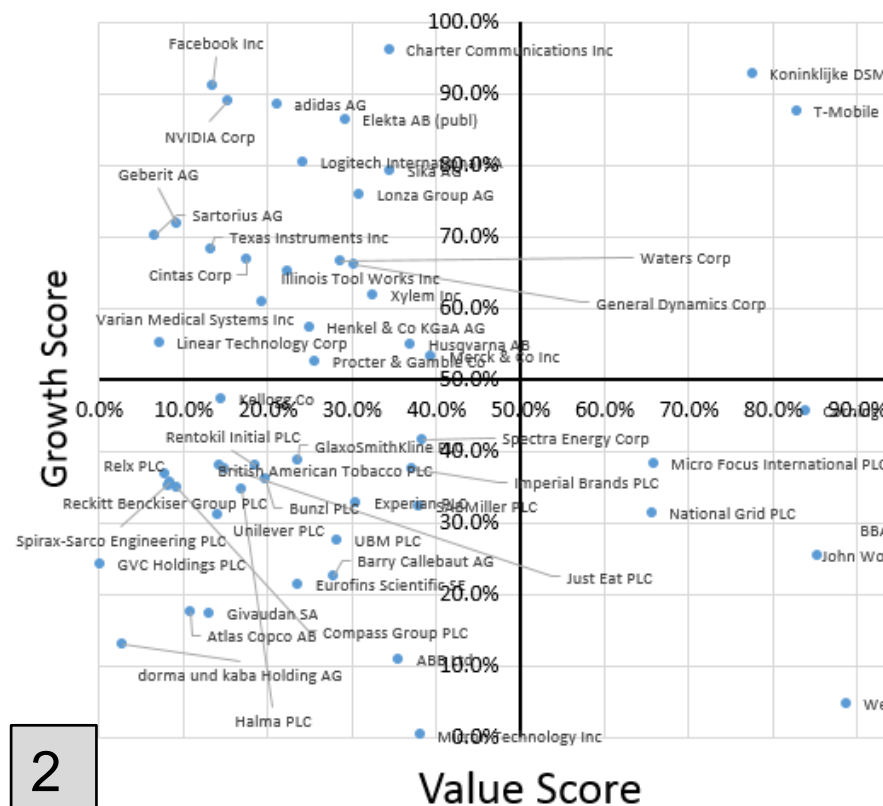
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Each quadrant has its own specs:

1. [Quadrant 1](#): Stocks with a strong value score are cheap relative to their earnings potential. The strong positive bubble signal should be interpreted as a momentum indicator possibly the consequence of a repricing based on the fundamentals. **As an investor, one could be a trend-following buyer.**
2. [Quadrant 2](#): Stocks with a weak value score are expensive relative to their earnings potential. The strong positive bubble signal is an indication of sentiment and herding increasing the price until it is not linked to fundamentals anymore. **As an investor, one could be a contrarian seller.**
3. [Quadrant 3](#): These stocks are expensive relative to their earnings potential. On top of that, there are clear negative bubble signals. Such stocks should be considered as falling knives. **As an investor, one could be a trend-following seller.**
4. [Quadrant 4](#): These stocks are cheap relative to their financial performance. The strong negative bubble signal is an indication of sentiment and herding. These stocks can be considered as over-sold. **As an investor, one could be a contrarian buyer.**

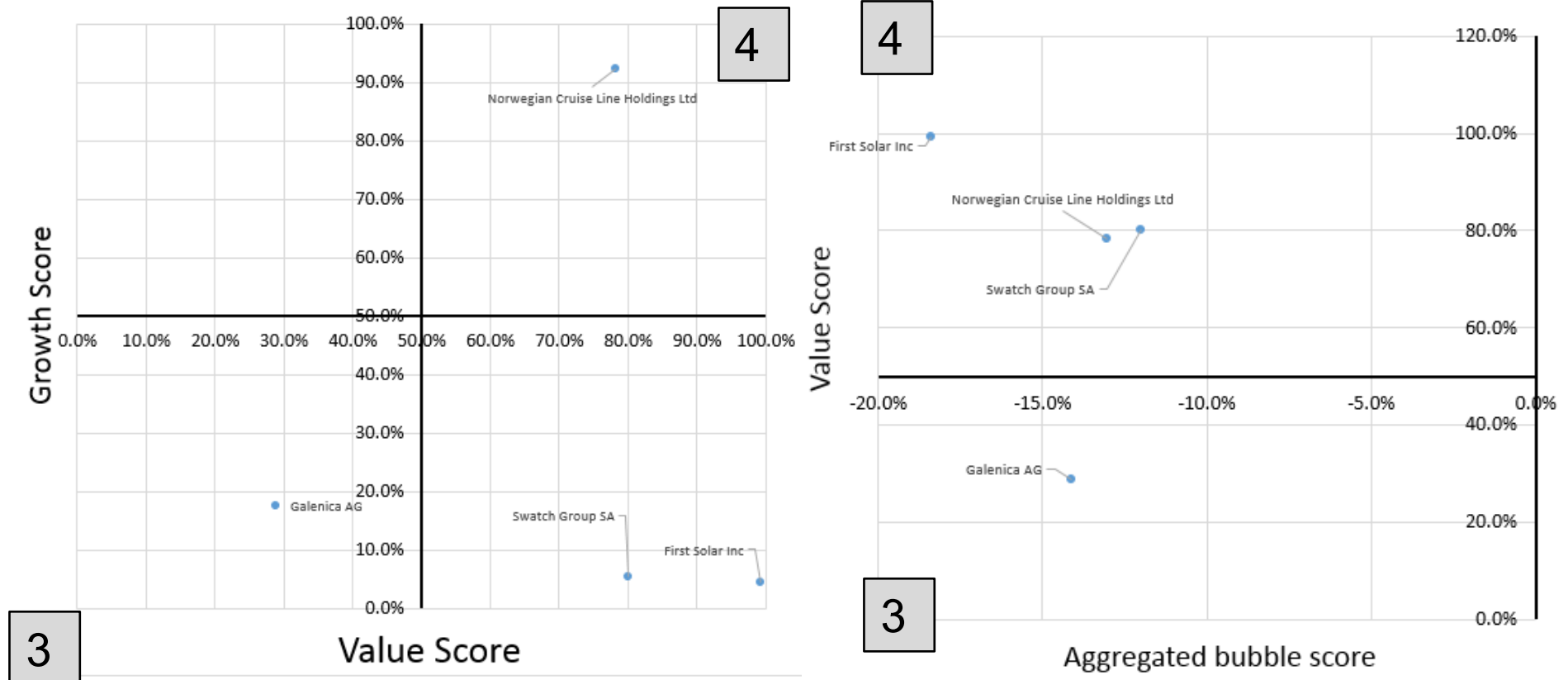
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**Quadrant 1 and 2 stocks:** strong positive bubble signals with strong (respectively weak) fundamentals



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**Quadrant 3 and 4 stocks:** strong negative bubble signals with weak respectively strong fundamentals



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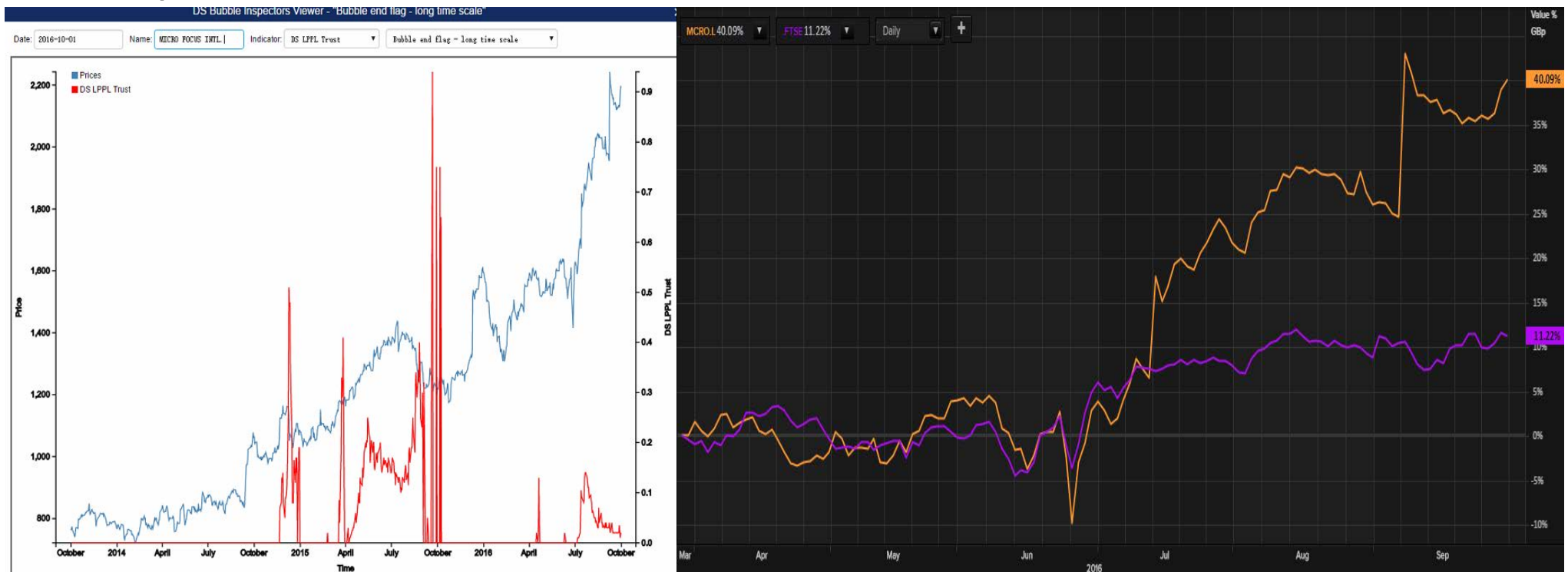
**Quadrant 1 stocks:** strong positive bubble signals with strong fundamentals

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
T-Mobile US Inc	United States of America	Telecommunication Services	Telecommunication Services	16.70%	13.9%	82.8%	87.6%
BBA Aviation PLC	United Kingdom	Industrials	Transportation	31.55%	13.0%	97.1%	29.2%
Centamin PLC	Jersey	Materials	Materials	144.92%	13.1%	98.7%	44.6%
Koninklijke DSM NV	Netherlands	Materials	Materials	45.41%	22.3%	77.5%	92.7%
Micro Focus International PLC	United Kingdom	Information Technology	Software & Services	81.21%	18.3%	65.8%	38.4%
National Grid PLC	United Kingdom	Utilities	Utilities	20.36%	12.3%	65.6%	31.4%
Corning Inc	United States of America	Information Technology	Technology Hardware & Equipment	37.38%	11.4%	83.8%	45.8%
WestRock Co	United States of America	Materials	Materials	1.96%	16.7%	88.6%	4.8%
John Wood Group PLC	United Kingdom	Energy	Energy	22.85%	11.2%	85.2%	25.5%



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**Quadrant 1 stocks:** strong positive bubble signals with strong fundamentals, example Micro Focus International PLC.



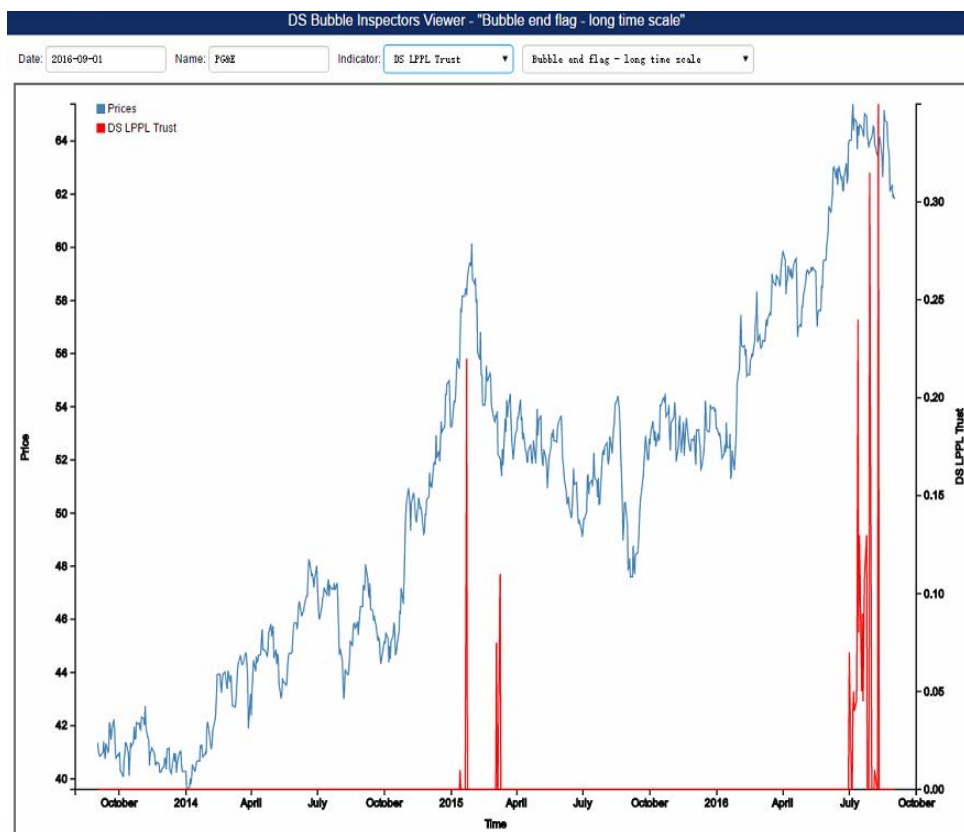
Left graph is a standard output from the Financial Crisis Observatory. It shows the historical price evolution of the stock in blue (left hand scale) and the calculated bubble warning index DS LPPL Trust in red (right hand scale). We can see a clearly spiking warning, indicating the end of a bubble-like regime. The right graph shows the outperformance of the stock over the last year (orange) with respect to the FTSE benchmark (purple), it is almost 29%.



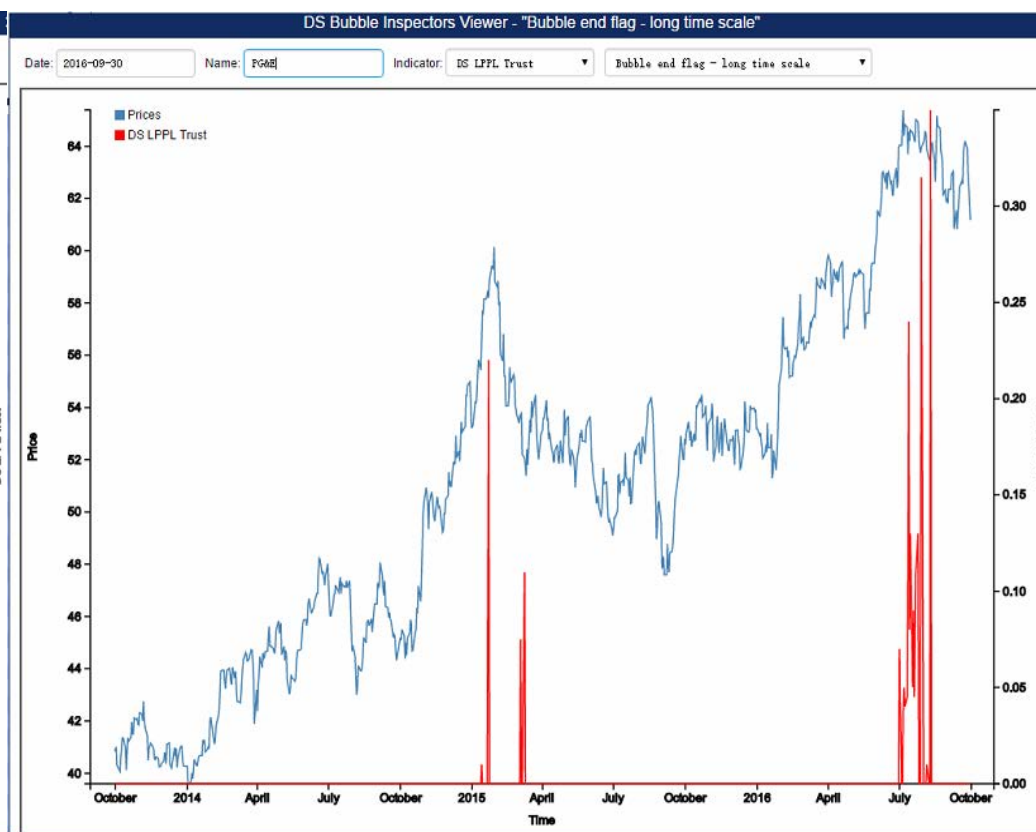
**Last month example:** strong positive bubble signals with strong fundamentals, PG&E Corp.

Note that the correction has occurred, in synchrony with our DS LPPL trust indicator, notwithstanding the strong fundamentals. This suggests a tactical buy as the stock is expected to rebound after further correcting.

Last month signal (1<sup>st</sup> Sept. 2016)



This month signal (1<sup>st</sup> Oct. 2016)



# The FCO Cockpit – Global Bubble Status October 1st, 2016

**Quadrant 2 stocks:** strong positive bubble signals with weak fundamentals

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
Charter Communications Inc	United States of America	Consumer Discretionary	Media	39.77%	13.1%	34.4%	96.1%
Cintas Corp	United States of America	Industrials	Commercial & Professional Services	29.87%	21.5%	17.4%	66.9%
Facebook Inc	United States of America	Information Technology	Software & Services	42.48%	12.5%	13.5%	91.1%
Linear Technology Corp	United States of America	Information Technology	Semiconductors & Semiconductor Equipment	46.49%	12.3%	7.1%	55.3%
Micron Technology Inc	United States of America	Information Technology	Semiconductors & Semiconductor Equipment	17.09%	13.6%	38.1%	0.4%
NVIDIA Corp	United States of America	Information Technology	Semiconductors & Semiconductor Equipment	173.43%	21.0%	15.3%	89.1%
Texas Instruments Inc	United States of America	Information Technology	Semiconductors & Semiconductor Equipment	41.03%	16.0%	13.2%	68.4%
British American Tobacco PLC	United Kingdom	Consumer Staples	Food, Beverage & Tobacco	35.78%	19.1%	14.9%	37.5%
Bunzl PLC	United Kingdom	Industrials	Capital Goods	28.64%	20.0%	19.8%	36.1%
Compass Group PLC	United Kingdom	Consumer Discretionary	Consumer Services	42.07%	12.0%	9.3%	35.0%
adidas AG	Germany	Consumer Discretionary	Consumer Durables & Apparel	113.30%	34.2%	21.1%	88.5%
Henkel & Co KGaA AG	Germany	Consumer Staples	Household & Personal Products	30.91%	28.4%	24.9%	57.3%
Sartorius AG	Germany	Health Care	Health Care Equipment & Services	38.69%	10.1%	6.7%	70.3%
Experian PLC	Ireland; Republic of	Industrials	Commercial & Professional Services	46.69%	23.5%	30.6%	32.8%
Eurofins Scientific SE	Luxembourg	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	47.12%	13.7%	23.7%	21.3%
GlaxoSmithKline PLC	United Kingdom	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	30.13%	10.4%	23.5%	38.9%
GVC Holdings PLC	Isle of Man	Consumer Discretionary	Consumer Services	80.12%	39.2%	0.1%	24.4%
Halma PLC	United Kingdom	Information Technology	Technology Hardware & Equipment	45.11%	17.9%	16.9%	34.7%
Imperial Brands PLC	United Kingdom	Consumer Staples	Food, Beverage & Tobacco	16.04%	10.1%	37.1%	37.6%
Just Eat PLC	United Kingdom	Information Technology	Software & Services	29.51%	10.7%	14.3%	37.9%
Reckitt Benckiser Group PLC	United Kingdom	Consumer Staples	Household & Personal Products	20.34%	12.8%	8.2%	35.1%
Relx PLC	United Kingdom	Industrials	Commercial & Professional Services	29.42%	14.5%	7.8%	36.8%

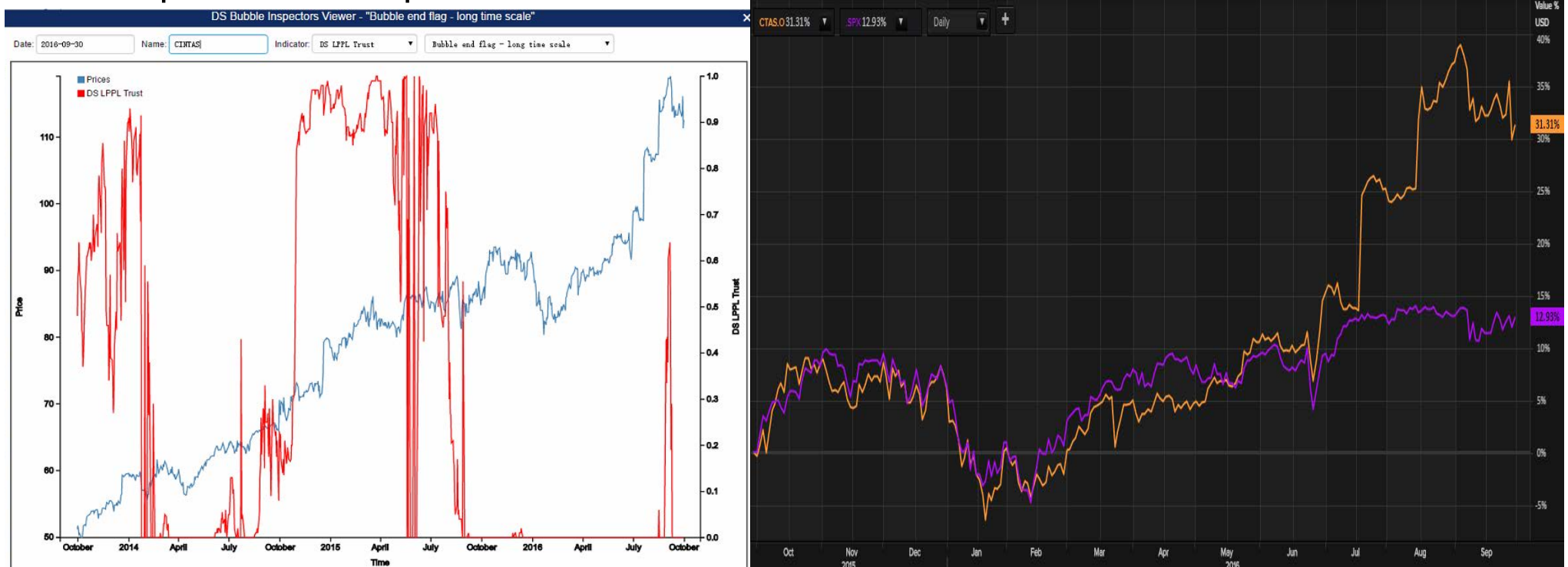
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**Quadrant 2 stocks:** strong positive bubble signals with weak fundamentals (con't)

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
Rentokil Initial PLC	United Kingdom	Industrials	Commercial & Professional Services	51.60%	34.1%	18.5%	38.1%
ABB Ltd	Switzerland	Industrials	Capital Goods	31.58%	12.7%	35.6%	11.0%
Barry Callebaut AG	Switzerland	Consumer Staples	Food, Beverage & Tobacco	20.19%	10.3%	27.9%	22.5%
dorma und kaba Holding AG	Switzerland	Industrials	Capital Goods	19.57%	10.5%	2.8%	13.1%
Geberit AG	Switzerland	Industrials	Capital Goods	42.02%	16.3%	9.1%	71.8%
Givaudan SA	Switzerland	Materials	Materials	24.10%	12.7%	13.1%	17.4%
Logitech International SA	Switzerland	Information Technology	Technology Hardware & Equipment	71.26%	10.2%	24.2%	80.4%
Lonza Group AG	Switzerland	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	44.52%	10.8%	30.9%	75.9%
Sika AG	Switzerland	Materials	Materials	54.24%	33.7%	34.5%	79.3%
SABMiller PLC	United Kingdom	Consumer Staples	Food, Beverage & Tobacco	20.28%	14.6%	37.9%	32.3%
Spirax-Sarco Engineering PLC	United Kingdom	Industrials	Capital Goods	60.30%	16.1%	8.3%	35.6%
General Dynamics Corp	United States of America	Industrials	Capital Goods	12.80%	10.4%	30.2%	66.0%
Illinois Tool Works Inc	United States of America	Industrials	Capital Goods	44.62%	11.1%	22.4%	65.2%
Kellogg Co	United States of America	Consumer Staples	Food, Beverage & Tobacco	16.09%	11.2%	14.5%	47.3%
Merck & Co Inc	United States of America	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	25.35%	21.5%	39.5%	53.4%
Procter & Gamble Co	United States of America	Consumer Staples	Household & Personal Products	22.64%	15.5%	25.6%	52.7%
Spectra Energy Corp	United States of America	Energy	Energy	61.10%	15.8%	38.3%	41.7%
Varian Medical Systems Inc	United States of America	Health Care	Health Care Equipment & Services	33.56%	18.2%	19.4%	60.9%
Waters Corp	United States of America	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	32.26%	14.6%	28.6%	66.5%
Xylem Inc	United States of America	Industrials	Capital Goods	57.75%	20.1%	32.6%	61.8%
UBM PLC	United Kingdom	Consumer Discretionary	Media	44.87%	17.7%	28.2%	27.5%
Unilever PLC	United Kingdom	Consumer Staples	Household & Personal Products	35.95%	21.9%	14.1%	31.3%
Elekta AB (publ)	Sweden	Health Care	Health Care Equipment & Services	48.79%	11.2%	29.2%	86.4%
Husqvarna AB	Sweden	Consumer Discretionary	Consumer Durables & Apparel	35.13%	17.2%	37.0%	55.0%
Atlas Copco AB	Sweden	Industrials	Capital Goods	27.30%	11.2%	10.8%	17.6%

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**Quadrant 2 stocks:** strong positive bubble signals with weak fundamentals, example Cintas Corp.

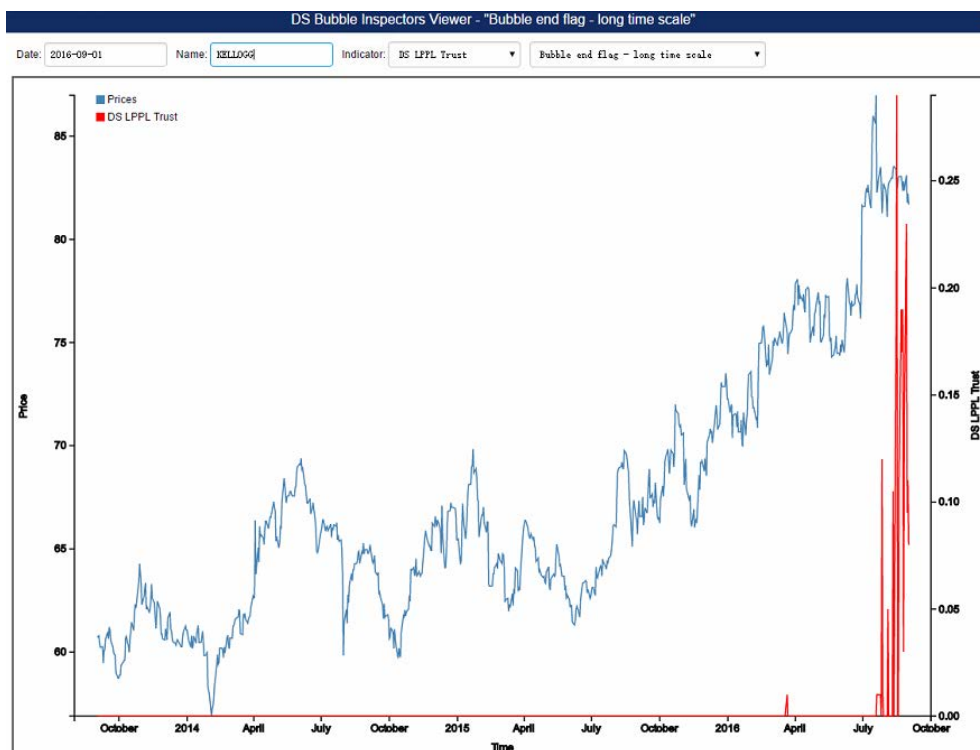


Left graph is a standard output from the Financial Crisis Observatory. It shows the historical price evolution of the stock in blue (left hand scale) and the calculated bubble warning index DS LPPL Trust in red (right hand scale). We can see a clearly spiking warning. The right graph shows the outperformance of the stock over the last year (orange) with respect to the S&P500 benchmark (purple), it is almost 18% up. The strong positive bubble signals and weak fundamentals indicate a high probability of correction, which already started a bit.

**Last month example:** strong positive bubble signals with weak fundamentals, Kellogg Co.

Note that the correction has started to occur, in synchrony with our DS LPPL trust indicator. This suggests continuing to short or get out of a long position on this stock.

Last month signal (1<sup>st</sup> Sept. 2016)



This month signal (1<sup>st</sup> Oct. 2016)



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**Quadrant 3 stocks:** strong negative bubble signals with weak fundamentals

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
Galenica AG	Switzerland	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	-13.86%	-14.1%	28.9%	17.7%

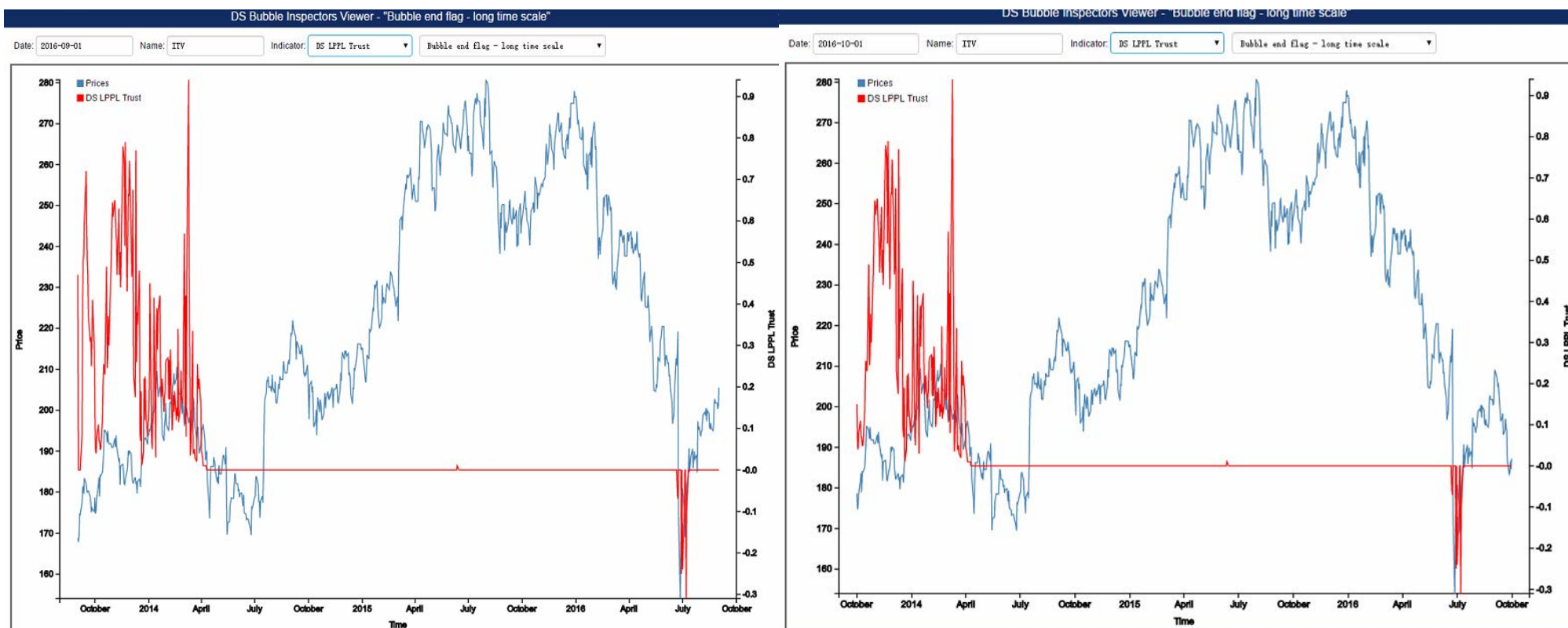


**Last month example:** strong negative bubble signals with weak fundamentals, ITV PLC.

Note that the correction has started to occur, in synchrony with our DS LPPL trust indicator, but in contradiction with the weak fundamentals. As a result, this correction is not sustainable and we can see it goes down again this month. It shows that the fundamental plays out in this case.

Last month signal (1<sup>st</sup> Sept. 2016)

This month signal (1<sup>st</sup> Oct. 2016)



# The FCO Cockpit – Global Bubble Status October 1st, 2016

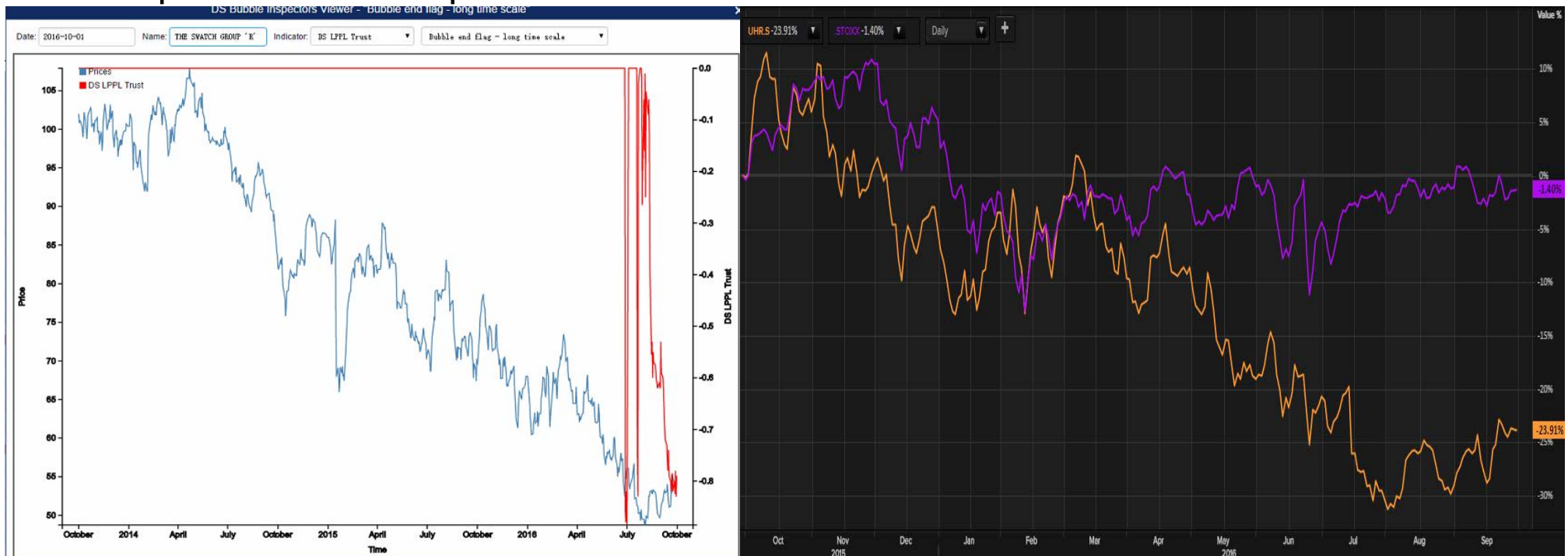
**Quadrant 4 stocks:** strong negative bubble signals with strong fundamentals

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
First Solar Inc	United States of America	Information Technology	Semiconductors & Semiconductor Equipment	-8.58%	-18.4%	99.3%	4.6%
Norwegian Cruise Line Holdings Ltd	United States of America	Consumer Discretionary	Consumer Services	-35.15%	-13.1%	78.2%	92.3%
Swatch Group SA	Switzerland	Consumer Discretionary	Consumer Durables & Apparel	-23.82%	-12.0%	80.0%	5.5%



# The FCO Cockpit – Global Bubble Status October 1st, 2016

**Quadrant 4 stocks:** strong negative bubble signals with strong fundamentals, example Swatch Group SA.



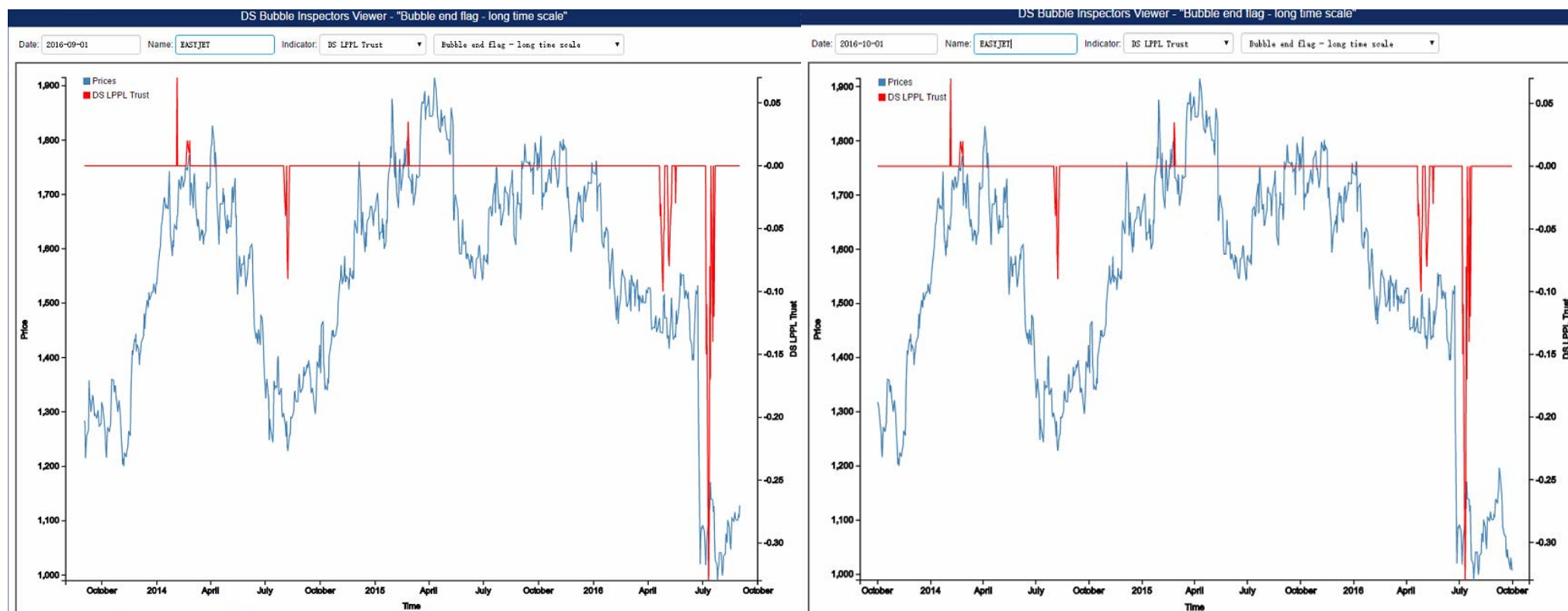
Left graph is a standard output from the Financial Crisis Observatory. It shows the historical price evolution of the stock in blue (left hand scale) and the calculated bubble warning index DS LPPL Trust in red (right hand scale). We can see a clearly spiking warning of the negative bubble. The right graph shows the performance of the stock over the last year (orange) with respect to the STOXX 600 benchmark (purple), it is -25%. We expect a following correction, which is due to our diagnostic of a negative bubble signal with strong fundamentals, calling for a contrarian buyer position.

**Last month example:** strong negative bubble signals with strong fundamentals, easyJet PLC.

Note that the correction has started to occur, but failed recently. This is in contradiction with the strong fundamentals. This is an example illustrating the power of market psychology over fundamentals over the short term (3 to 6 months). Such a contrarian position should take a longer term perspective.

Last month signal (1<sup>st</sup> Sept. 2016)

This month signal (1<sup>st</sup> Oct. 2016)



# The FCO Cockpit – Global Bubble Status October 1st, 2016

## Sectors

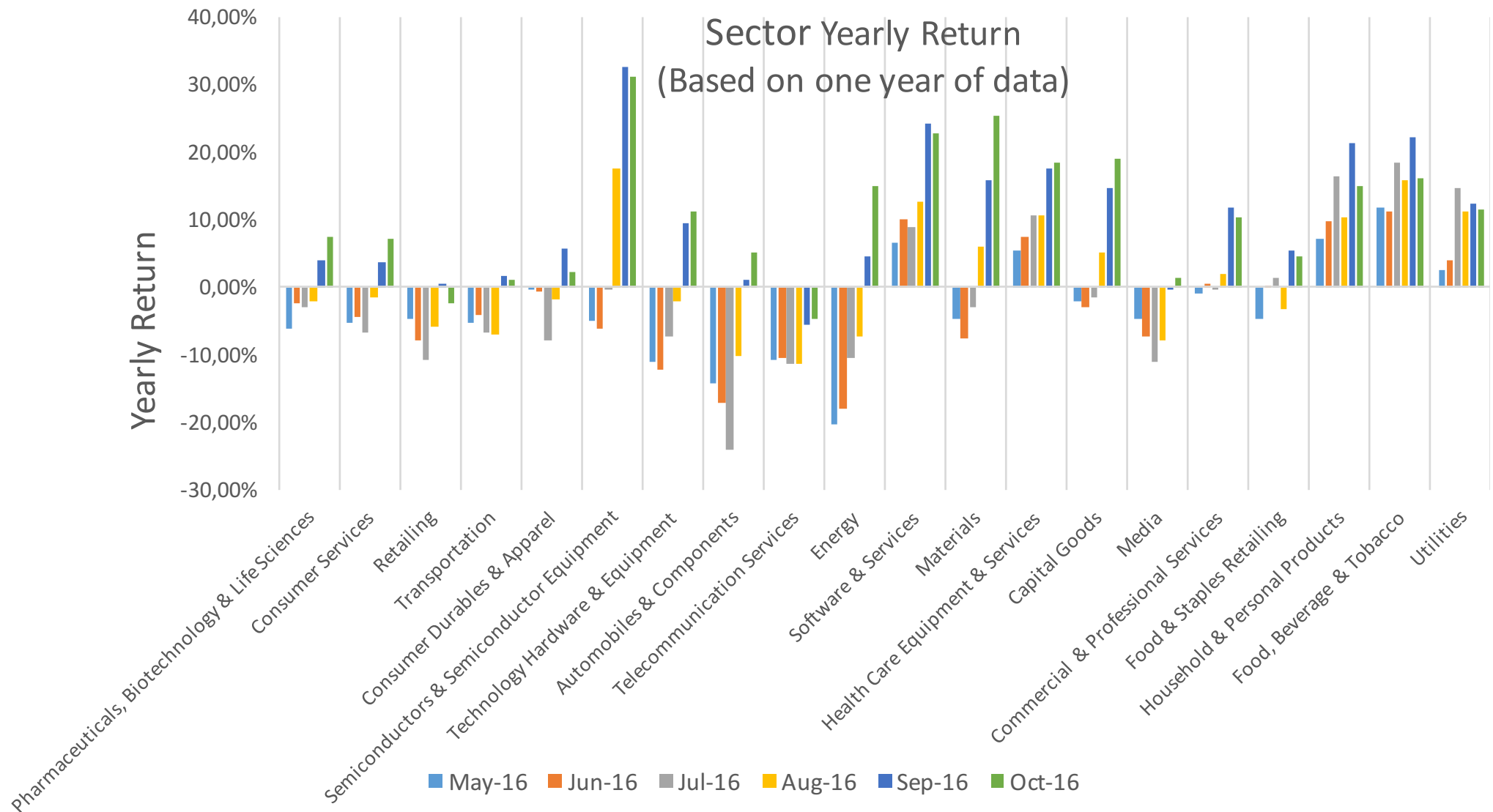
# The FCO Cockpit – Global Bubble Status October 1st, 2016

GICS Industry Group Name	Yearly Return		Bubble Score		Value Score		Growth Score	
	Oct 1st	Sep 1st	Oct 1st	Sep 1st	Oct 1st	Sep 1st	Oct 1st	Sep 1st
Pharmaceuticals, Biotechnology & Life Sciences	7.5%	3.9%	1.7%	2.2%	37.0%	36.2%	54.6%	53.7%
Consumer Services	7.0%	3.7%	2.0%	2.0%	41.6%	42.7%	54.4%	53.2%
Retailing	-2.4%	0.4%	0.1%	0.2%	40.1%	38.5%	47.9%	49.4%
Transportation	1.1%	1.6%	0.5%	-1.3%	59.3%	59.2%	49.2%	49.7%
Consumer Durables & Apparel	2.1%	5.7%	1.6%	1.9%	49.4%	49.8%	59.5%	59.9%
Semiconductors & Semiconductor Equipment	31.2%	32.5%	6.3%	5.7%	45.8%	45.8%	52.9%	52.3%
Technology Hardware & Equipment	11.2%	9.5%	3.8%	3.4%	51.5%	52.6%	45.8%	47.6%
Automobiles & Components	5.0%	1.0%	0.1%	0.0%	69.2%	69.5%	69.0%	69.8%
Telecommunication Services	-4.8%	-5.7%	-0.1%	-1.0%	65.8%	66.1%	55.1%	55.0%
Energy	14.9%	4.6%	0.9%	0.6%	62.3%	63.1%	23.9%	24.0%
Software & Services	22.8%	24.0%	2.7%	2.3%	38.3%	37.2%	59.5%	60.9%
Materials	25.3%	15.7%	3.0%	2.7%	57.9%	57.5%	46.8%	46.7%
Health Care Equipment & Services	18.5%	17.4%	2.0%	4.0%	40.2%	40.3%	65.6%	65.8%
Capital Goods	18.8%	14.7%	2.8%	2.6%	48.6%	48.6%	48.0%	48.1%
Media	1.2%	-0.2%	0.5%	-0.3%	54.8%	55.3%	54.6%	54.0%
Commercial & Professional Services	10.2%	11.7%	3.2%	4.3%	38.2%	37.3%	46.5%	43.8%
Food & Staples Retailing	4.5%	5.5%	-0.8%	0.7%	55.6%	54.9%	46.0%	46.2%
Household & Personal Products	14.9%	21.2%	6.0%	6.2%	19.4%	19.0%	49.7%	48.7%
Food, Beverage & Tobacco	16.0%	22.0%	3.0%	5.0%	33.7%	34.5%	51.1%	50.2%
Utilities	11.3%	12.4%	0.7%	3.2%	77.2%	77.6%	44.8%	45.3%

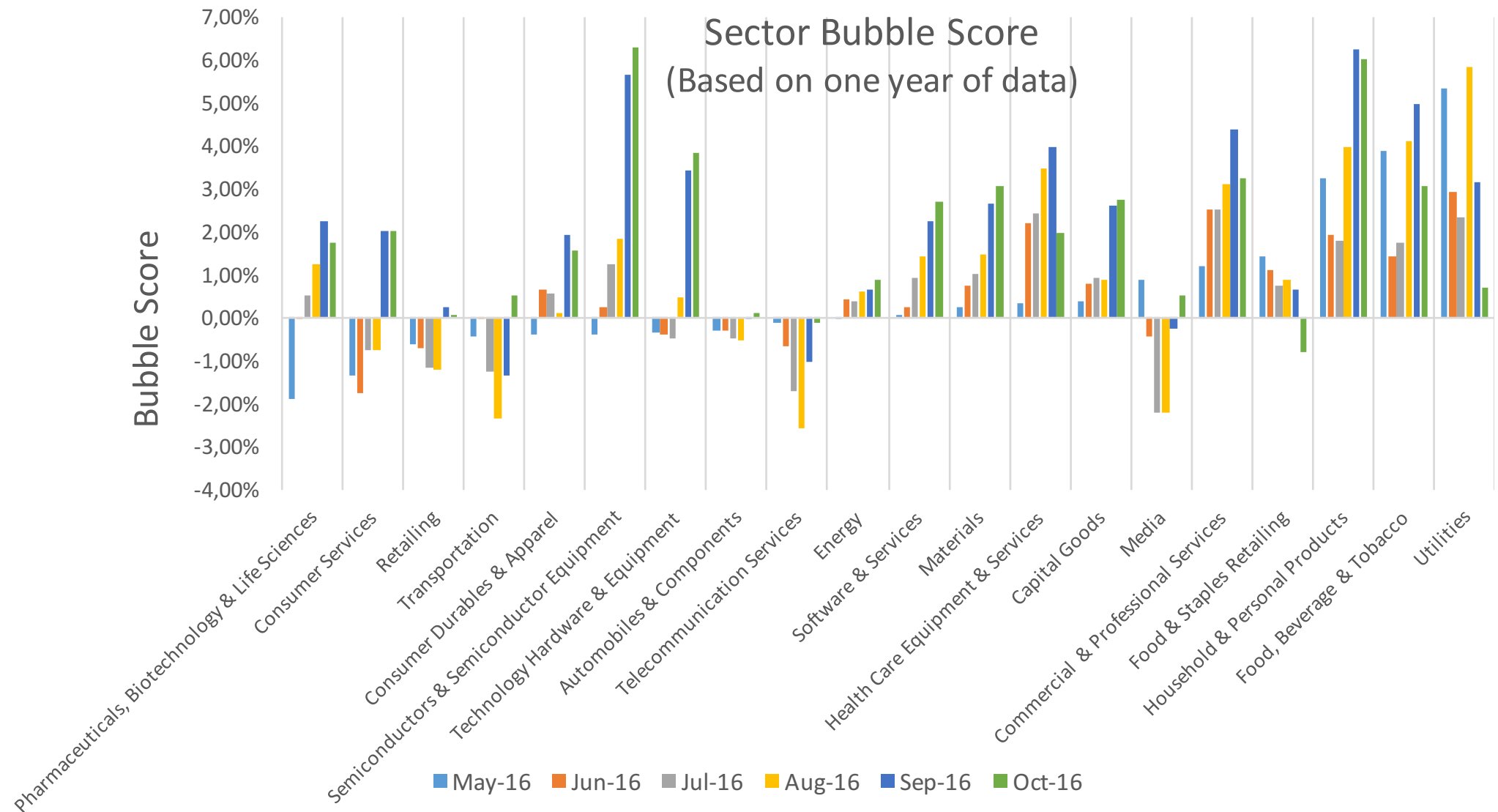
By aggregating the calculations that were done at the single stock level in the previous section, we can see the bubble, value and growth score at the sector level. The results in the previous report are also presented here for comparison.

- The sector *Semiconductors & Semiconductor Equipment* we recommended in last month has a higher bubble score, which demonstrates that this sector is still attracting investors because of recent high expectation of sector revenues and development of new technologies.
- We also see an overall decrease of bubble scores in defensive sectors such as Commercial & Professional Services, Food & Staples Retailing, Household & Personal Products and Food, Beverage & Tobacco. It shows that these bubbles we reported in the past months are starting their corrections.

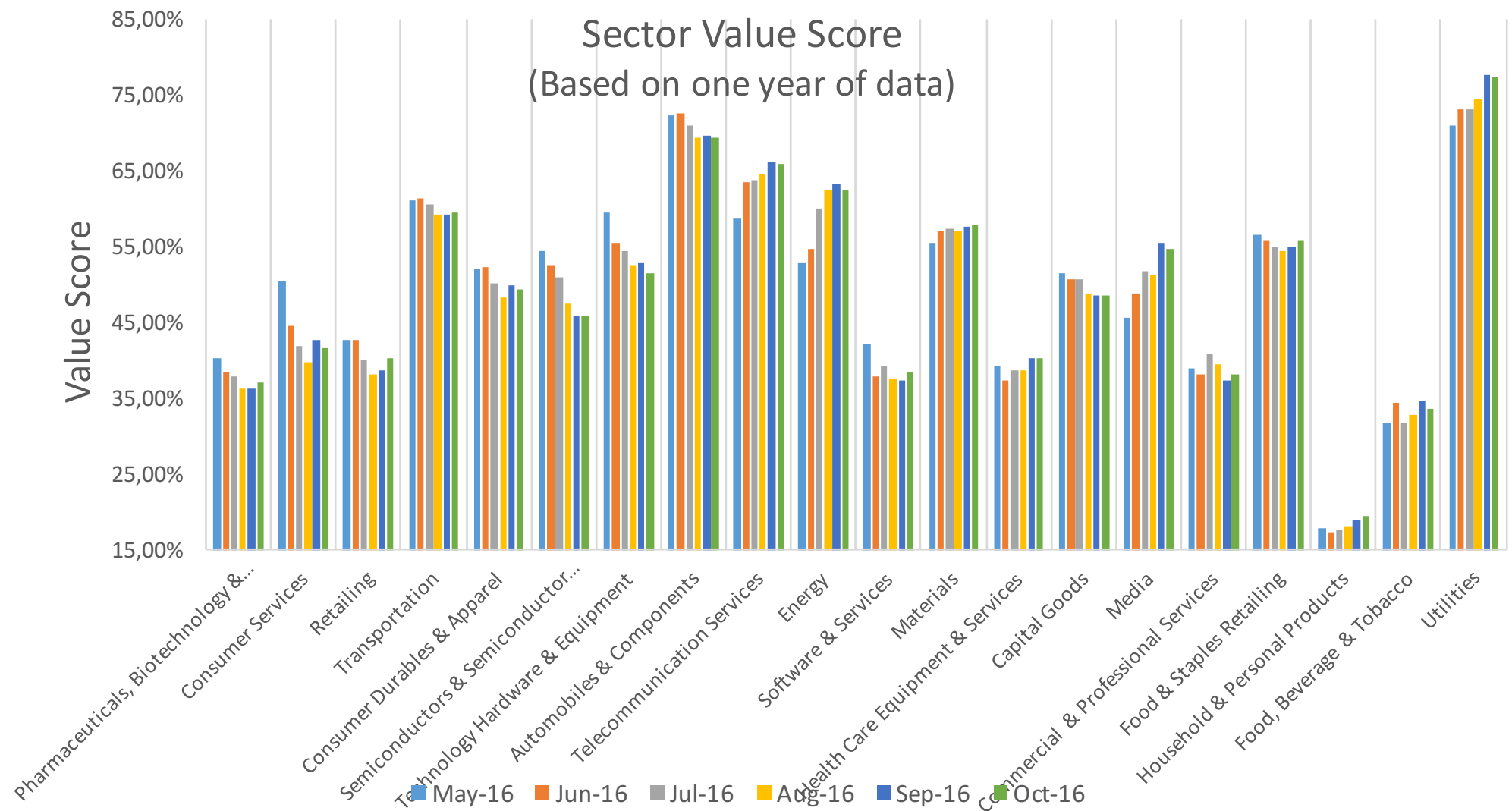
# The FCO Cockpit – Global Bubble Status October 1st, 2016



# The FCO Cockpit – Global Bubble Status October 1st, 2016

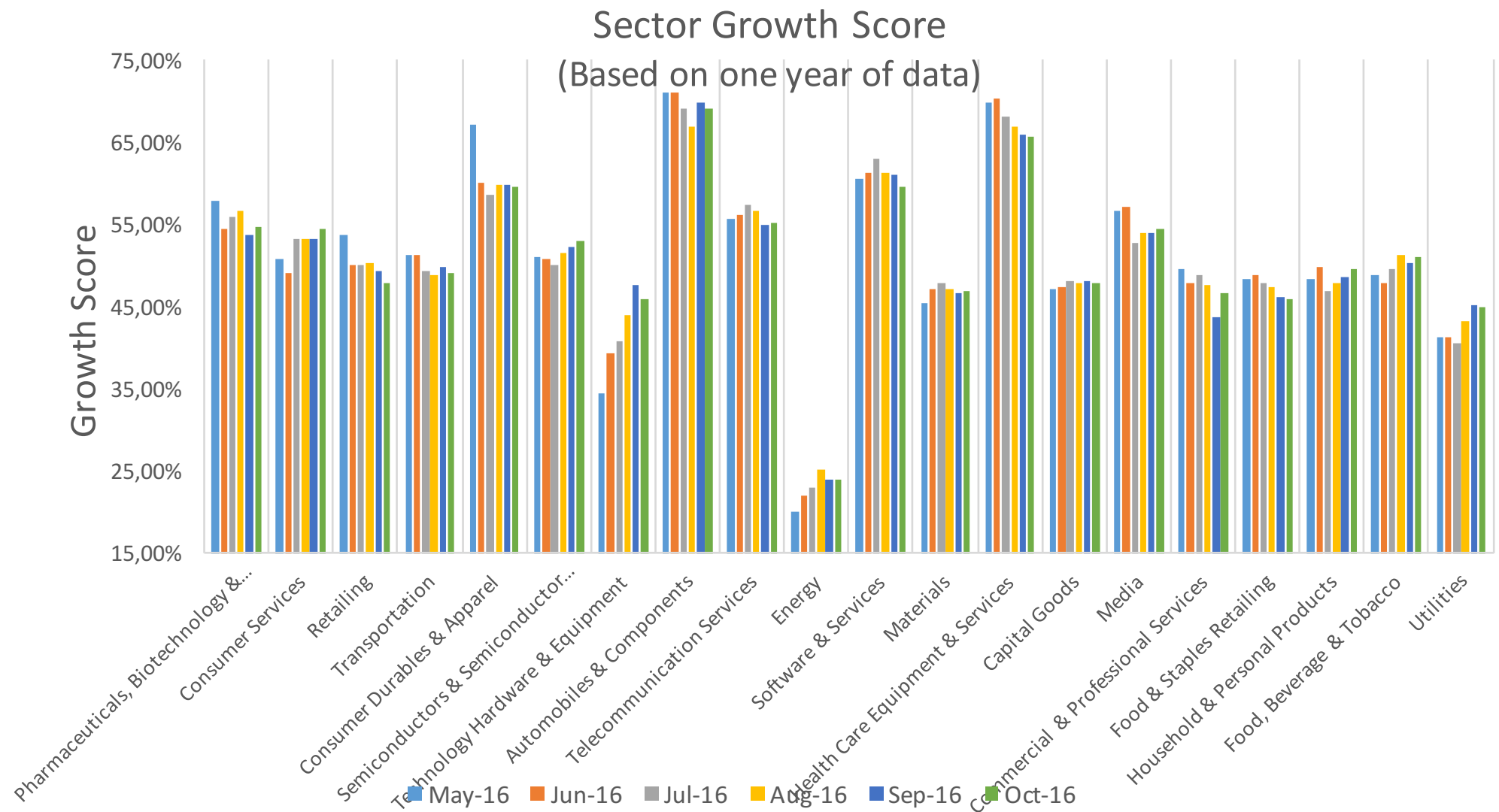


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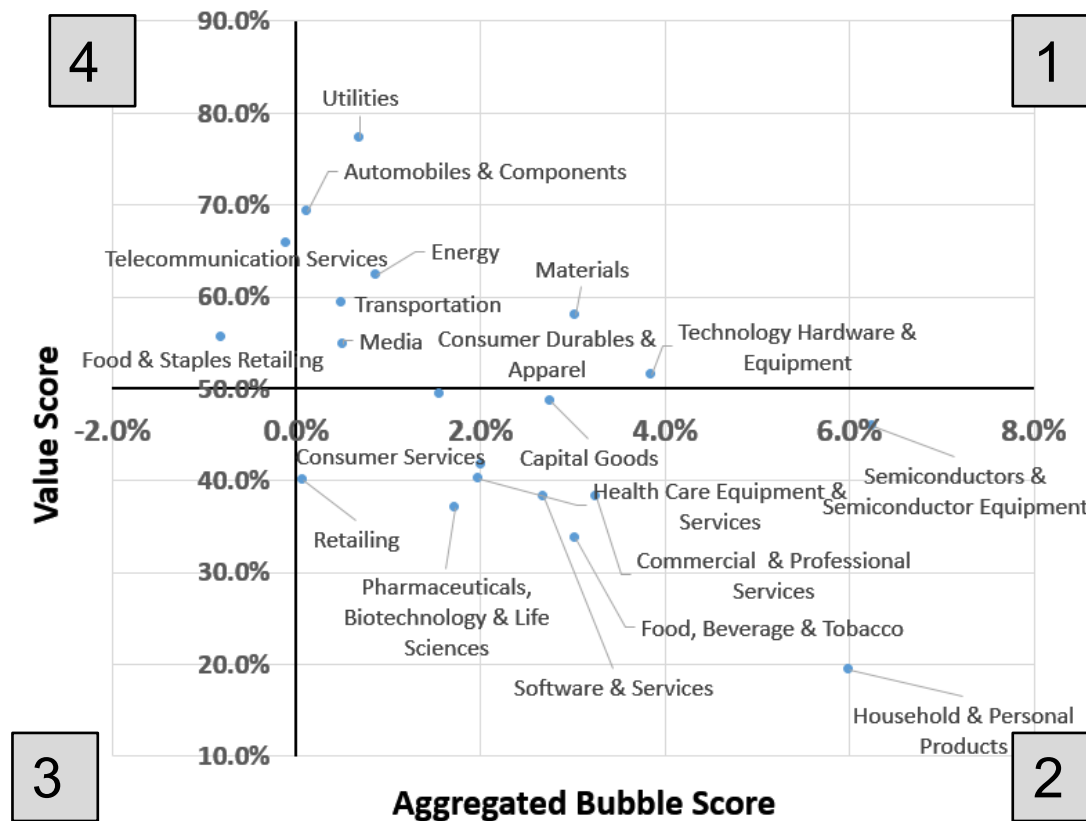


# The FCO Cockpit – Global Bubble Status October 1st, 2016





# The FCO Cockpit – Global Bubble Status October 1st, 2016

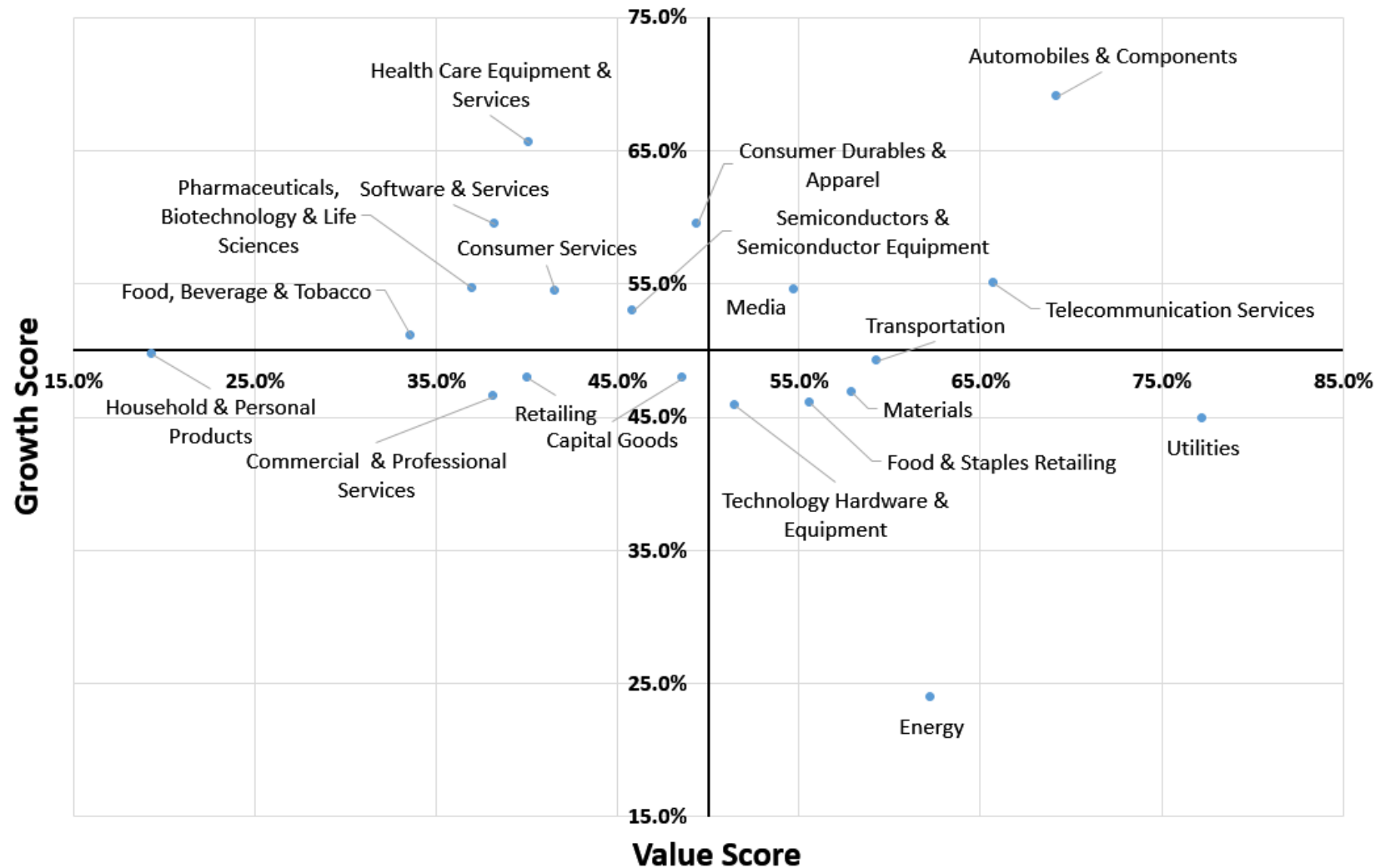


By plotting the value score versus the aggregated bubble score, we can also divide the sectors into four quadrants\*:

1. [Quadrant 1:](#) Sectors with an average positive bubble score and a strong value score;
2. [Quadrant 2:](#) Sectors with an average positive bubble score and a weak value score;
3. [Quadrant 3:](#) Sectors with an average negative bubble score and a weak value score;
4. [Quadrant 4:](#) Sectors with an average negative bubble score and a strong value score.

\*For sectors, a strong value score is identified if value score is larger than 50%, and a weak value score is identified if else.

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# The FCO Cockpit – Global Bubble Status October 1st, 2016

## Portfolio Construction and Performance

Here we illustrate the methodology of the portfolio construction process based on the results of our previous analyses.

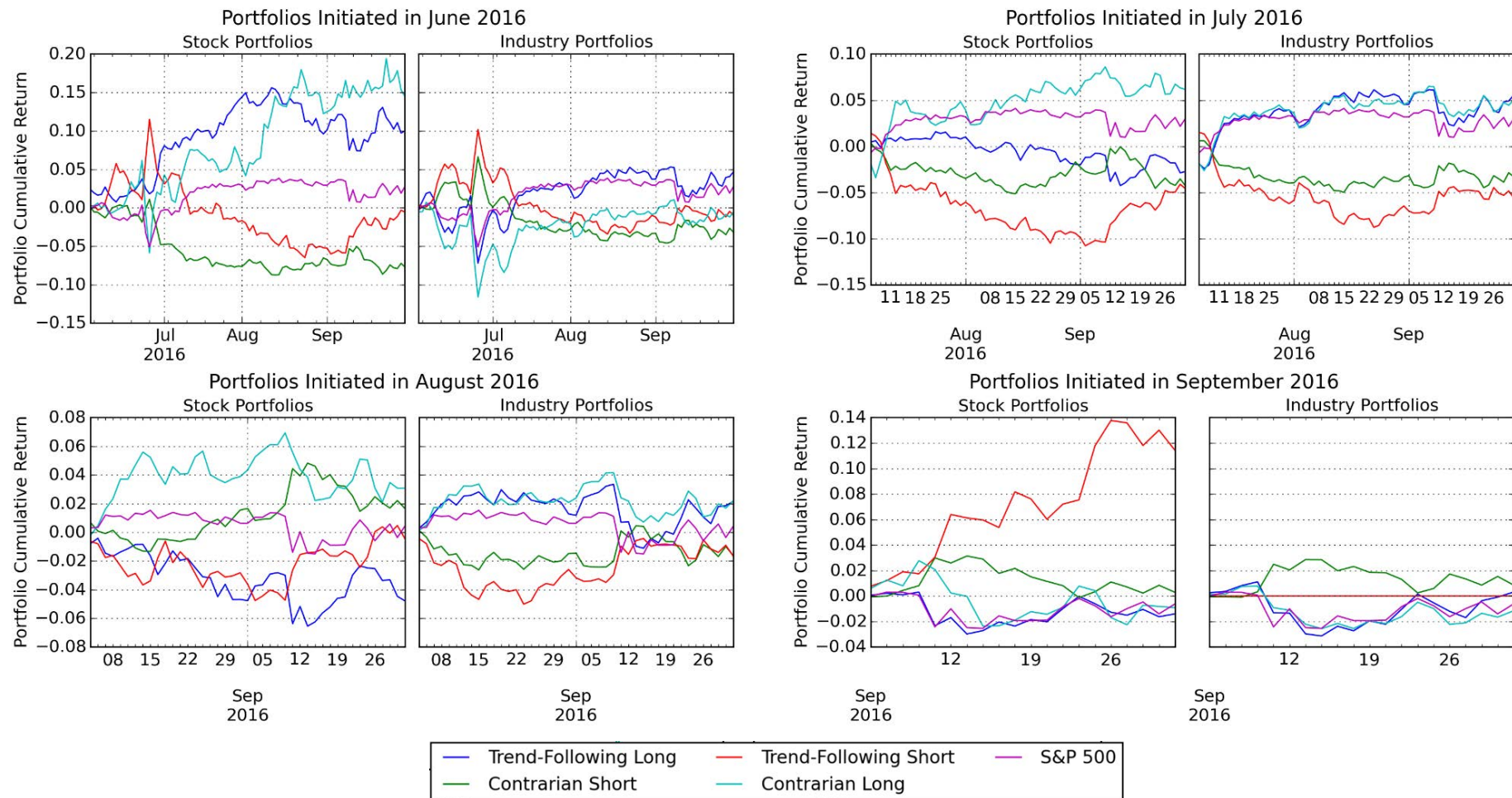
For individual stocks that we identified in the 4 quadrants, we constructed 4 portfolios based on the 4 quadrants defined in the last report. Each portfolio consists of all the stocks listed in the corresponding quadrant.

- (1) Trend-Following Long Stock Portfolio (TFLSP) is made of the stocks that have a **strong** bubble signal as well as a **strong** value score. For instance, TFLSP June consists of all the stocks listed in quadrant 1, identified in slide 25 of June FCO Report.
- (2) Trend-Following Short Stock Portfolio (TFSSP) is made of the stocks that have a **strong** bubble signal as well as a **weak** value score.
- (3) Contrarian Long Stock Portfolio (CLSP) is made of the stocks that have a **weak** bubble signal as well as a **strong** value score.
- (4) and Contrarian Short Stock Portfolio (CSSP) is made of the stocks that have a **weak** bubble signal as well as a **weak** value score.

At the same time, we also classified 20 industries into 4 quadrants. We also constructed 4 type of industry portfolios based on the 4 industry quadrants. Each portfolio consists of all the stocks in the industries listed in the corresponding quadrant. Following the same definitions as above, we have Trend-Following Long Industry Portfolio (TFLIP), Trend-Following Short Industry Portfolio (TFSIP), Contrarian Long Industry Portfolio (CLIP), and Contrarian Short Industry Portfolio (CSIP). For example, Trend-Following Long Industry Portfolio June consists of all the stocks in the industries listed in quadrant 1, identified in slide 39 of the June 2016 FCO Report.

In each month, we initiated 8 new portfolios based on the updated results. The performance of every 8 portfolios we initiated in each month since April 2016 are presented in the next slide. All of the stocks in our portfolios have the same weights and we don't consider transaction cost in the portfolio performance.

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This month, we find that Contrarian Long portfolios continue to play out and outperform the market in most portfolios initiated in June, July, August and September. The strong performance of Trend-Following Short Stock Portfolio September is due to the large decrease of the single stock ITV PLC we reported in Quadrant 3 in last month's report. Contrarian Portfolios are more delicate to use due to their sensitivity to timing the expected reversal and exhibit very volatile performances, indicating that most of bubbles in the market are still dominating and that fundamentals have not yet played out.

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For information, see

<http://www.er.ethz.ch/financial-crisis-observatory.html>