

The FCO Cockpit – Global Bubble Status Report

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Chair of Entrepreneurial Risk

August 1st, 2016

The FCO Cockpit – Global Bubble Status **August 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 898 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>)

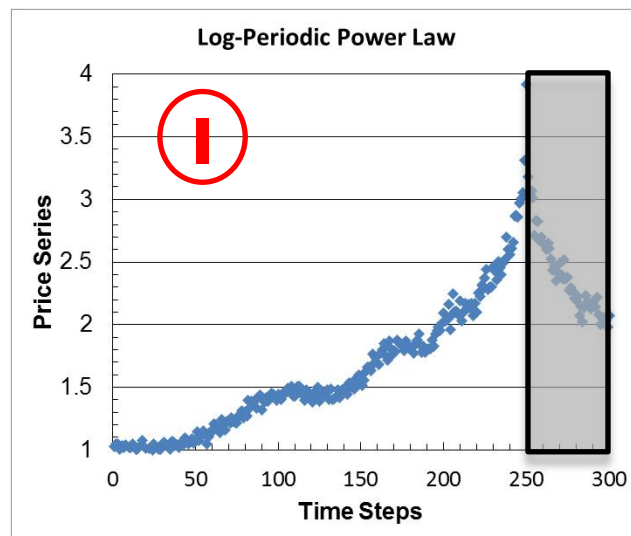
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How does it work?

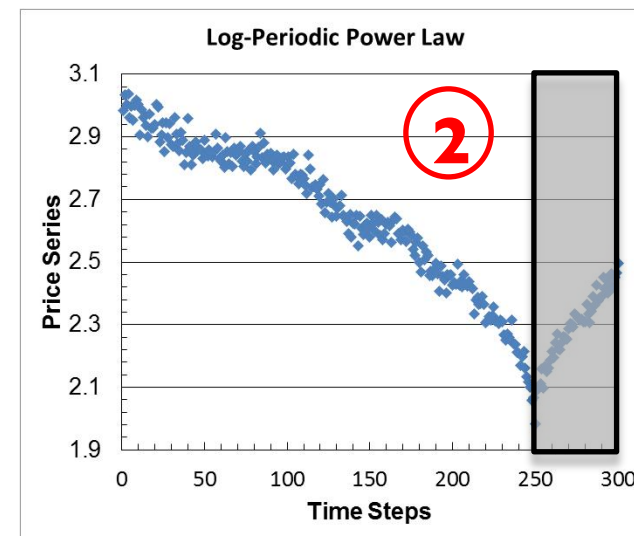
We use the Log-Periodic Power Law Singular (LPPLS) model to hunt for the distinct fingerprint of **Bubbles**:

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**

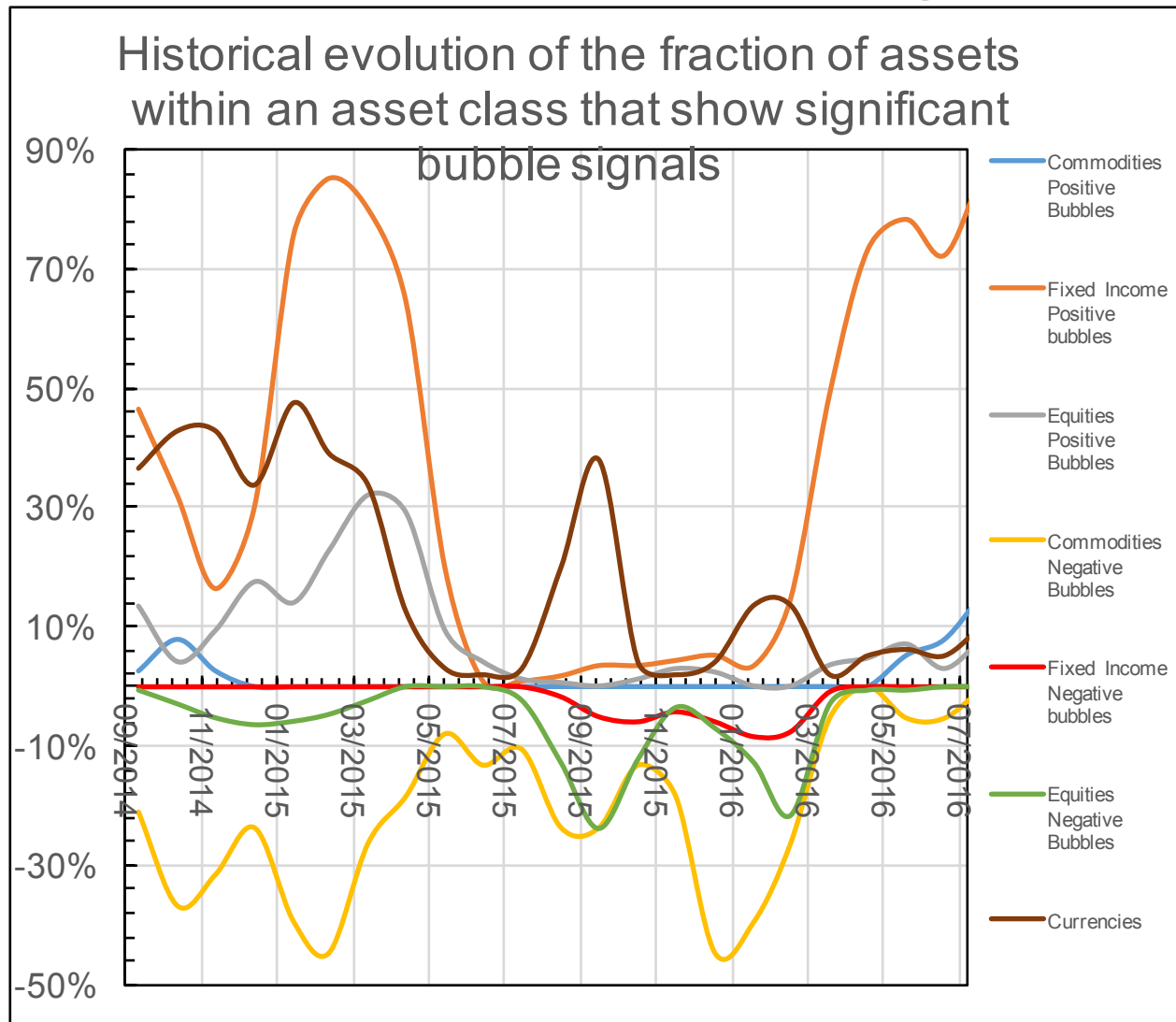


A **negative bubble** when
there is imitation in **selling**

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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 growing tail wind. A very strong momentum has lifted the entire asset class. Looking at the very significant increase in warning signals, the fixed income sector is 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 third consecutive month and for the first time since November 2014, we see positive bubble signals in commodities indices.

Market focus is still on bonds.

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Other interesting highlights from this report

- Over the last four months, we reported that there was a strong rally in Japanese government bonds and in ¥ cross rates, and the results suggested that this process was not sustainable. The rally in Japanese government bond which cooled down last month started to pick-up again, and it is still continuing in ¥ cross rates. The results in this report suggest that this process in ¥ cross rates is still also not sustainable;
- Over the last four 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 more than a year and three quarters;
- There is no general trend in equities. The most interesting result was found in Lithuania, Vietnam and Pakistan stock market indices, which are showing signs of positive bubbles for the third consecutive month. In addition, India and Philippine stock market indices joined them.
- In our analysis of single stocks, the positive bubble signals we reported before in non-cyclical/defensive sectors become stronger, likely as a result of growing uncertainties and disappointing global economic growth. Sectors like *Household & Personal Products, Food, Beverage & Tobacco, Utilities* are booming with money inflow.

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			
iBoxx Asia India Government Index	13.1%	34.2%	28.10%
iBoxx Asia Malaysia Government Index	6.0%	30.6%	27.30%
iBoxx EUR Public Banks Index	3.3%	28.3%	55.0%
iBoxx EUR Finland Index	6.4%	27.2%	52.7%
iBoxx GBP Sovereigns Index	9.7%	25.0%	43.50%
iBoxx Asia Korea Government Index	8.4%	24.2%	46.40%
iBoxx Asia Philippines Government Index	9.4%	22.6%	34.50%
Negative Bubbles			
None			

Of the 34 government bond indices that were analyzed, 29 show positive bubble signals, that is 85% of the set.

The table above shows the indices with the seven strongest signals, all are in Asia and Europe.

The figure on the next page shows the remarkable bubble in the Indian sovereign bonds. The fast growing price trajectory that was seen in the first quarter of 2016 is accelerating even further.

Daily .IBBAS0049

2/2/2016 - 8/7/2016 (GM

Line, .IBBAS0049, Last Quote(Last)

7/29/2016, 239.93720, N/A, N/A

Indian Government Bond Index

Source: Thomson Reuters



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Corporate bonds

Sector Indices	Yearly Return	DS LPPL Trust	DS LPPL Confidence
Positive Bubbles			
iBoxx EUR Financial Services Index	5.6%	61.0%	83.4%
iBoxx EUR Financial Services Senior Index	5.2%	57.4%	85.5%
iBoxx USD Support Services Index	10.2%	47.6%	70.0%
iBoxx USD Real Estate Index	8.4%	44.9%	72.6%
iBoxx EUR Financial Services Subordinated Index	13.7%	44.9%	24.2%
iBoxx USD Household Goods Index	11.0%	42.8%	61.3%
iBoxx USD General Financial Index	7.7%	41.9%	66.2%
iBoxx USD Financial Services Index	7.7%	41.6%	64.8%
Negative Bubbles			
None			

The strong momentum is not only in government bonds. It can be seen across all sectors and regions: 72 of the 82 corporate bond indices that were analyzed, that is 88% of the set, give positive bubble warning signals.

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

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Commodities

Commodities Indices	Yearly Return	DS LPPL Trust	DS LPPL Confidence
Positive Bubbles			
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%	23.80%
Sugar ER Index	53.3%	7.9%	19.80%
Robsta Coffee ER Index	2.1%	5.2%	10.40%

For the first time nearly from 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 positive bubble signals in the Soybean index over the last two months and in the agriculture index last month disappeared;

Over the last four 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 of the of 38 analyzed show negative bubble signals. The negative bubble signals in the Grains and Heating Oil indices that was shown last month disappeared;

The S&P Goldman Sachs Commodity Index (next page) shows that the remarkable rebound in commodities that started last February stopped and started to an opposite direction.

1D

3D

1W

1M

6M

1Y

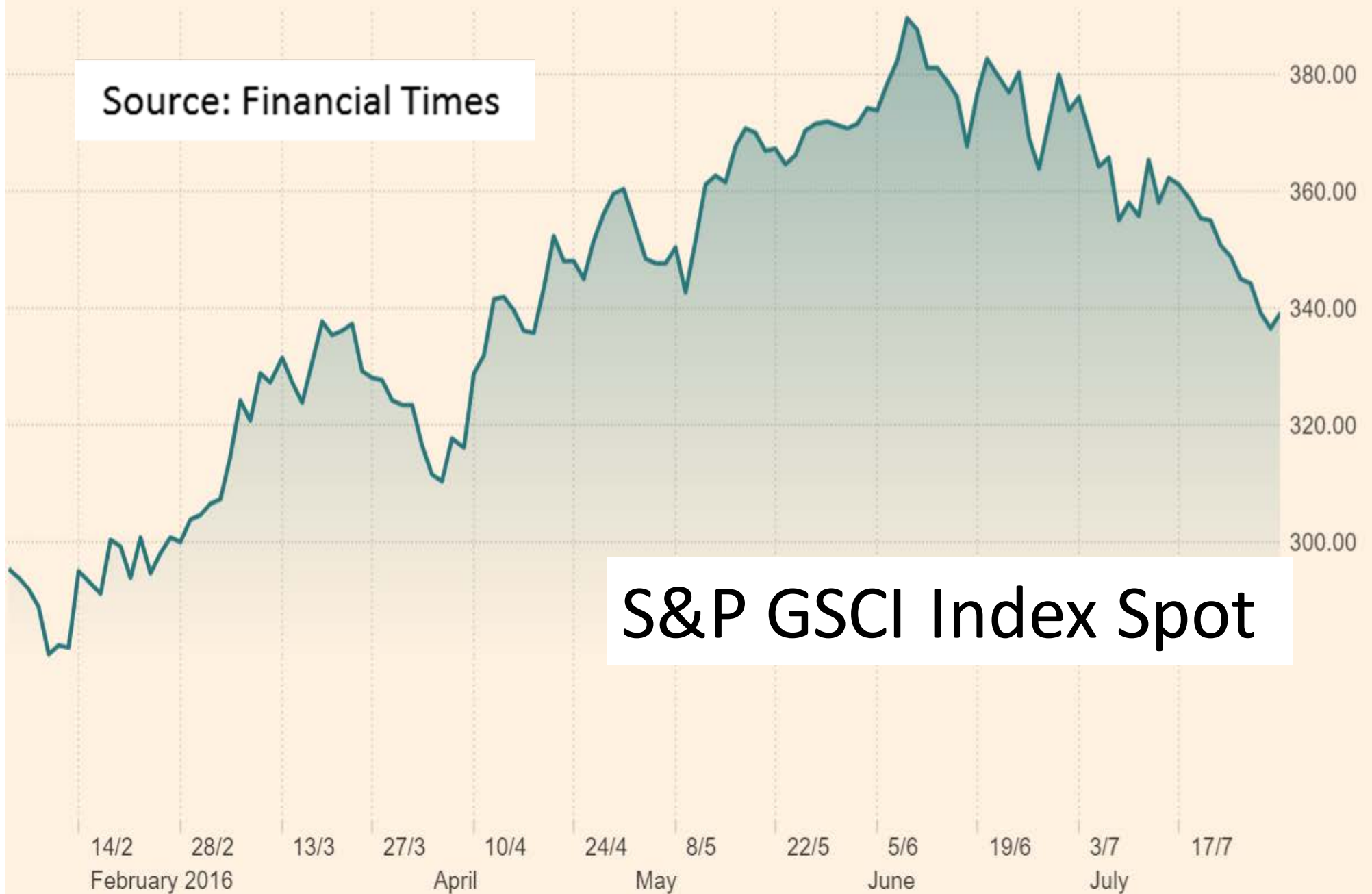
3Y

5Y

Comparisons >

Source: Financial Times

S&P GSCI Index Spot



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Currencies

FX	Yearly Ret	DS LPPL Trust	DS LPPL Confidence
Iceland Krona/Euro	11.2%	30.2%	53.4%
Japanese Yen/Swiss Franc	21.6%	17.5%	30.0%
US Dollar/Chinese Renminbi	6.9%	15.3%	24.0%
Japanese Yen/Euro	19.0%	12.9%	25.6%
Brazilian Real/Swiss Franc	3.8%	12.1%	36.0%
Brazilian Real/Euro	1.6%	11.5%	43.7%
US Dollar/Japanese Yen	17.8%	8.6%	20.9%
US Dollar/Brazilian Real	3.6%	7.5%	20.6%
Russian Rouble/Euro	11.4%	6.7%	7.2%
New Zealand Dollar/Swiss Franc	9.2%	5.7%	12.3%

For the first month, there is a strong positive bubble signal in the Brazilian Real. Only ten currency pairs out of 95 analyzed show bubble signals, three of them are crosses with the Real. This may be due to signs of a small rebound of Brazil's economy from rock bottom.

For the fourth consecutive month, there is a strong positive bubble signal in the Japanese yen. Two of the ten pairs that are showing bubble are crosses with the Japanese yen. This may be contributed by the "safe-heaven" status of the Japanese Yen, which increased even further in the aftermath of the Brexit vote and also to the Japanese central bank that delivered a smaller-than-expected round of additional stimulus..

In addition, there are signs of a bubble on the Russian Rouble/Euro and New Zealand Dollar/Swiss Franc exchange rates. This can further confirm the results on commodities. In the last four reports, we clearly saw that the bubble signals in the currencies of commodities exporting countries disappeared. This is confirmed by this report;

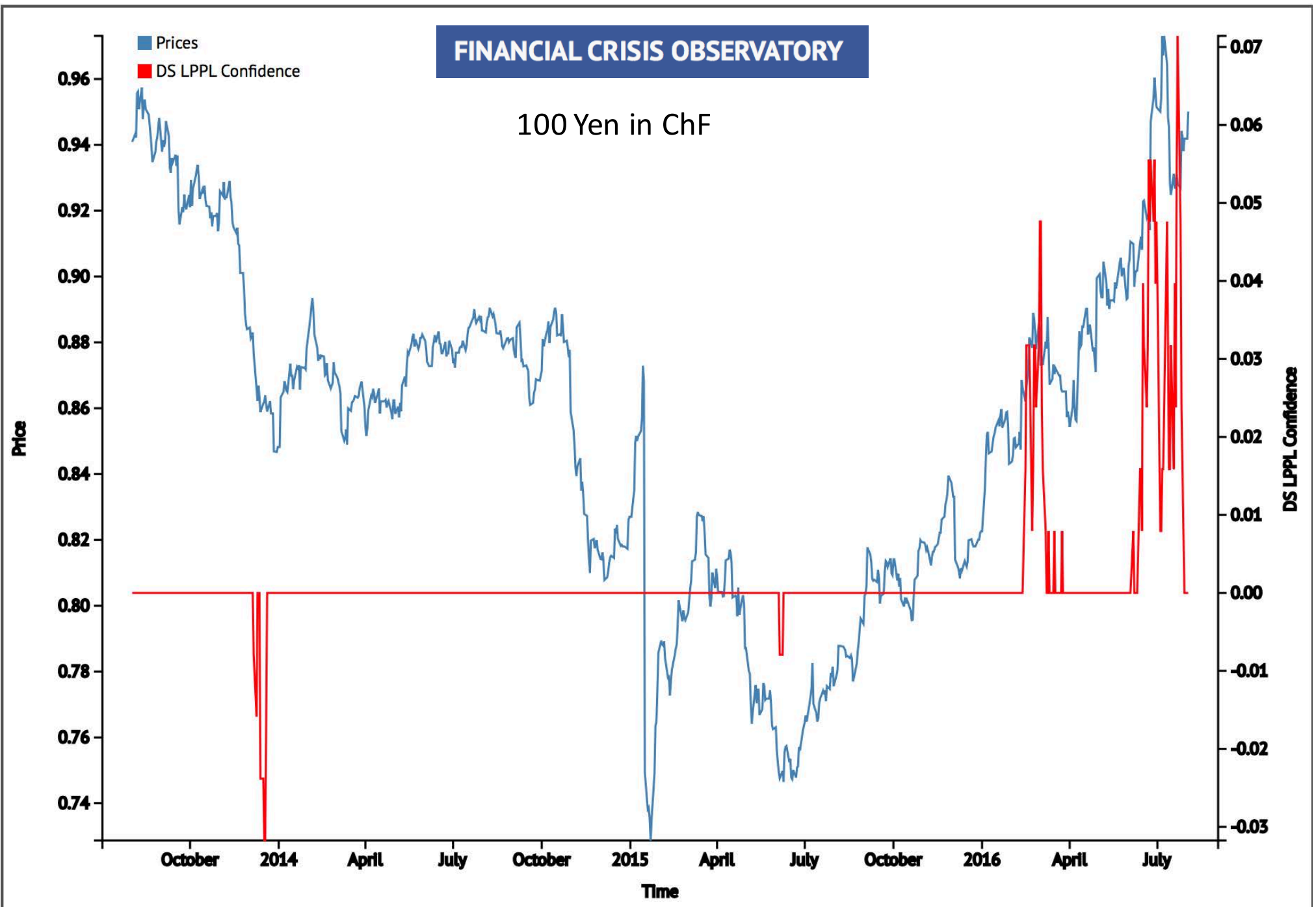
Finally, the strengthening bubble signal on the Danish Krone/Euro exchange rate that was shown over the last three months disappeared. This can be due in part to the Danish Central Bank intervention in the currency markets to preserve the Krone to Euro peg.

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Indicator: DS LPPL Confidence

Bubble end flag - long time scale



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Stocks country indices

Equities Countires Indices	Yearly Return	DS LPPL Trust	DS LPPL Confidence	Country
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
Negative Bubbles				
None				
Equities Sector Indices	Yearly Return	DS LPPL Trust	DS LPPL Confidence	
Positive Bubbles				
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%	

There is no general trend in equities. The most interesting result was found in Lithuania, Vietnam and Pakistan stock market indices, which are showing sign of a positive bubble for the second consecutive month. In addition, India and Philippine stock market indices joined them this month. It is interesting to see that all of them are in Asia except the Lithuania stock market index.

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Single Stocks

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What is this?

For 898 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.

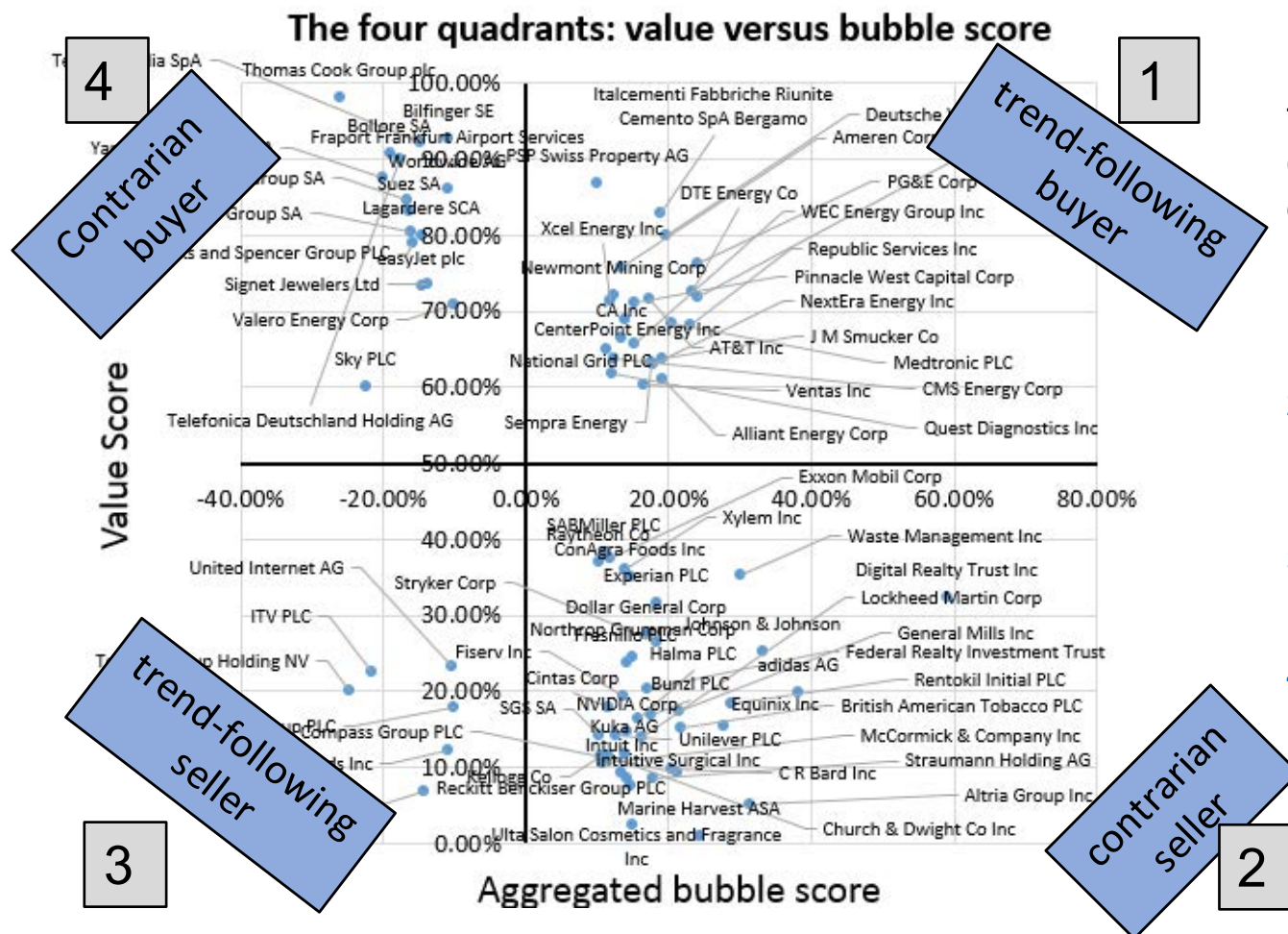
The stocks are the constituents of the Stoxx Europe 600, the S&P 500 and the Nasdaq 100 indices. From these, all doubles and stocks with incomplete data are removed. Because our financial strength indicators are specifically designed for corporates, all financial institutions are taken out of the set 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. DTE Energy Co);
2. [Quadrant 2](#): Stocks with a strong positive bubble score and a weak value score (e.g. Johnson & Johnson);
3. [Quadrant 3](#): Stocks with a strong negative bubble score and a weak value score (e.g. ITV PLC);
4. [Quadrant 4](#): Stocks with strong negative bubble score and a strong financial strength (e.g. Sky PLC)

*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%.

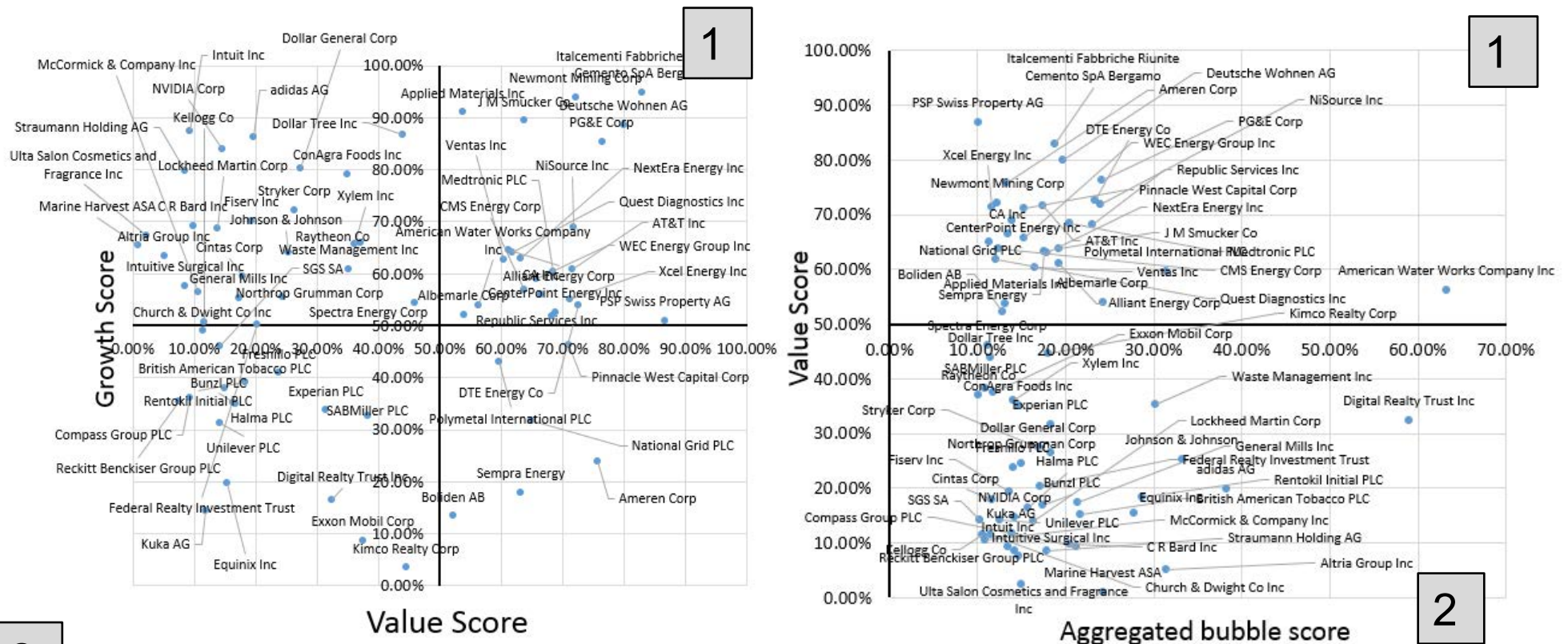
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Each quadrant has its own specs:

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.**

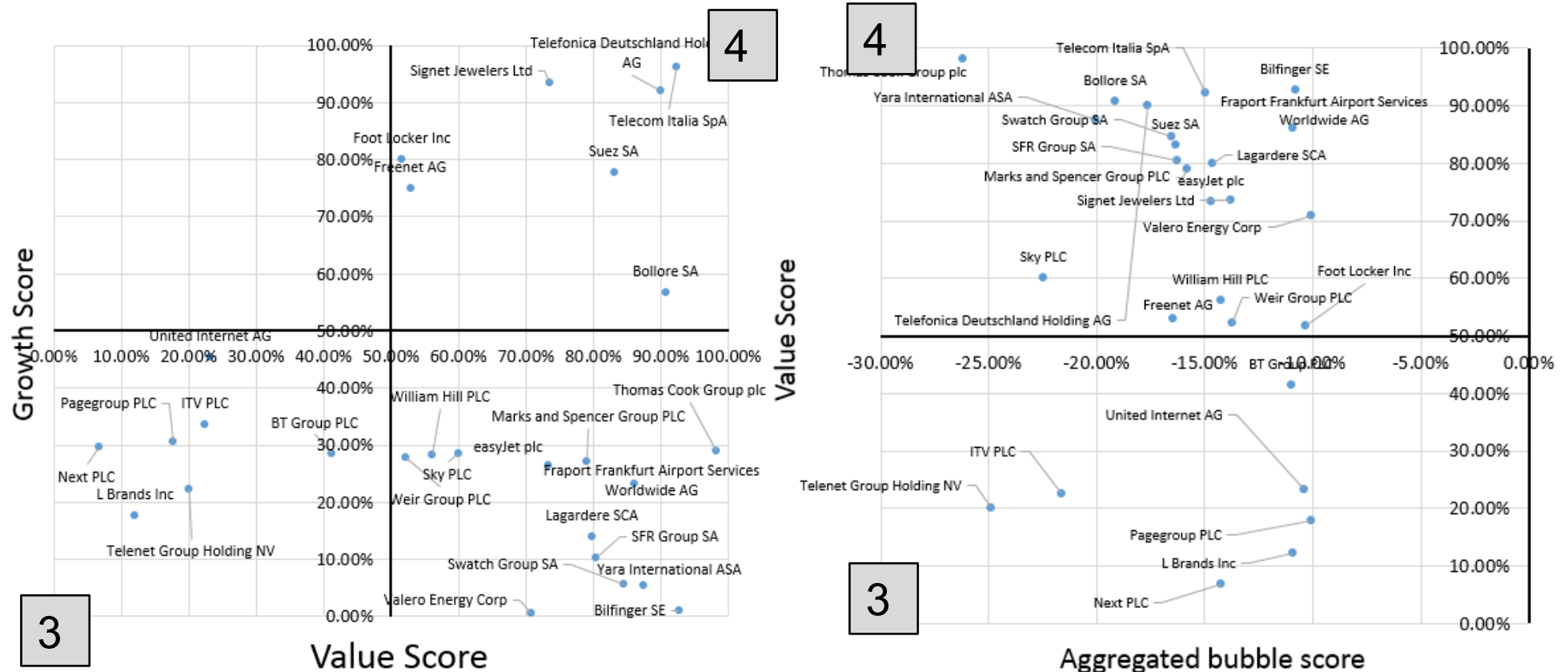
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Quadrant 1 and 2 stocks: strong positive bubble signals with strong respectively weak fundamentals



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



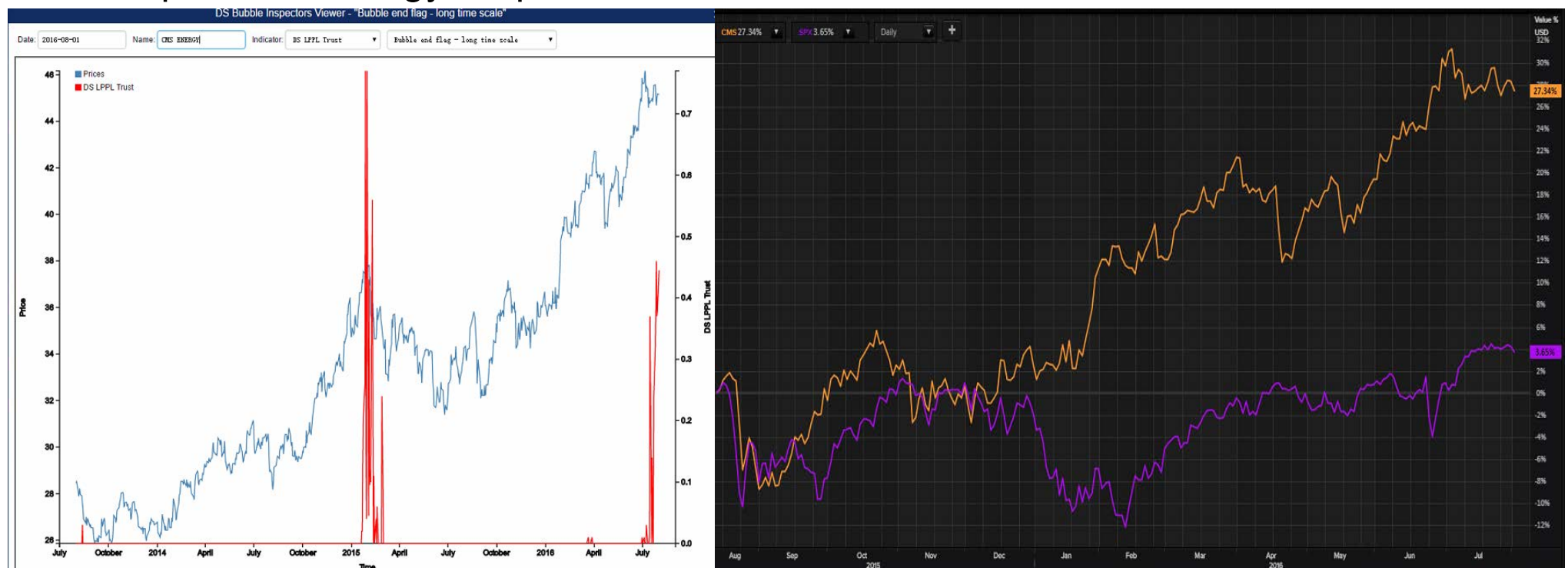
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Quadrant 1 stocks: strong positive bubble signals with strong fundamentals

Company Name	Country of Headquarters	GICS SectorName	GICS Industry GroupName	Yearly Return	Bubble Score	Value Score	Growth Score
CA Inc	United States of America	Information Technology	Software & Services	17.8%	13.43%	66.48%	56.01%
Deutsche Wohnen AG	Germany	Real Estate	Real Estate	48.1%	19.69%	79.96%	88.64%
Italcementi Fabbriche Riunite Cemento SpA Bergamo	Italy	Materials	Materials	6.6%	18.78%	82.96%	94.88%
National Grid PLC	United Kingdom	Utilities	Utilities	28.5%	11.33%	64.92%	31.74%
PSP Swiss Property AG	Switzerland	Real Estate	Real Estate	12.4%	10.06%	86.75%	51.00%
Ameren Corp	United States of America	Utilities	Utilities	31.9%	13.27%	75.72%	23.83%
CMS Energy Corp	United States of America	Utilities	Utilities	33.2%	12.37%	63.70%	56.90%
CenterPoint Energy Inc	United States of America	Utilities	Utilities	25.0%	13.84%	68.82%	52.56%
Quest Diagnostics Inc	United States of America	Health Care	Health Care Equipment & Services	17.5%	12.07%	61.80%	64.03%
DTE Energy Co	United States of America	Utilities	Utilities	22.6%	23.31%	72.61%	53.90%
Alliant Energy Corp	United States of America	Utilities	Utilities	32.0%	19.19%	61.14%	64.59%
Medtronic PLC	Ireland; Republic of	Health Care	Health Care Equipment & Services	11.9%	20.43%	68.49%	60.47%
NextEra Energy Inc	United States of America	Utilities	Utilities	22.3%	17.88%	63.14%	63.03%
Newmont Mining Corp	United States of America	Materials	Materials	154.5%	12.31%	72.16%	93.99%
NiSource Inc	United States of America	Utilities	Utilities	49.9%	24.01%	71.83%	68.82%
PG&E Corp	United States of America	Utilities	Utilities	22.5%	24.16%	76.39%	85.41%
Pinnacle West Capital Corp	United States of America	Utilities	Utilities	28.7%	15.32%	71.05%	46.21%
Republic Services Inc	United States of America	Industrials	Commercial & Professional Services	19.9%	23.00%	68.26%	51.89%
J M Smucker Co	United States of America	Consumer Staples	Food, Beverage & Tobacco	39.2%	19.24%	63.81%	89.42%
Sempra Energy	United States of America	Utilities	Utilities	10.9%	17.60%	63.25%	17.93%
AT&T Inc	United States of America	Telecommunication Services	Telecommunication Services	24.4%	17.40%	71.60%	60.80%
Ventas Inc	United States of America	Real Estate	Real Estate	31.0%	16.46%	60.36%	62.81%
WEC Energy Group Inc	United States of America	Utilities	Utilities	33.1%	15.24%	65.70%	58.91%
Xcel Energy Inc	United States of America	Utilities	Utilities	28.6%	11.69%	71.27%	55.01%

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Quadrant 1 stocks: strong positive bubble signals with strong fundamentals,
example CMS Energy 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, 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 S&P500 benchmark (purple), it is almost 24%.

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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
Cintas Corp	United States of America	Industrials	Commercial & Professional Services	25.8%	11.67%	17.93%	59.47%
Equinix Inc	United States of America	Real Estate	Real Estate	36.0%	27.84%	15.37%	19.71%
Fiserv Inc	United States of America	Information Technology	Software & Services	26.0%	13.61%	19.38%	70.16%
Intuit Inc	United States of America	Information Technology	Software & Services	5.0%	13.46%	9.24%	87.42%
Intuitive Surgical Inc	United States of America	Health Care	Health Care Equipment & Services	28.9%	14.18%	8.57%	57.68%
NVIDIA Corp	United States of America	Information Technology	Semiconductors & Semiconductor Equipment	185.2%	14.24%	14.59%	83.85%
Ulta Salon Cosmetics and Fragrance Inc	United States of America	Consumer Discretionary	Retailing	56.6%	14.91%	2.34%	67.37%
British American Tobacco PLC	United Kingdom	Consumer Staples	Food, Beverage & Tobacco	29.0%	21.66%	15.03%	37.97%
Bunzl PLC	United Kingdom	Industrials	Capital Goods	29.9%	17.43%	16.82%	35.08%
Compass Group PLC	United Kingdom	Consumer Discretionary	Consumer Services	39.3%	21.20%	9.35%	36.19%
adidas AG	Germany	Consumer Discretionary	Consumer Durables & Apparel	98.5%	38.24%	19.71%	86.30%
Kuka AG	Germany	Industrials	Capital Goods	43.3%	13.84%	11.80%	14.48%
Experian PLC	Ireland; Republic of	Industrials	Commercial & Professional Services	25.6%	18.27%	31.51%	33.74%
Fresnillo PLC	Mexico	Materials	Materials	199.4%	14.02%	23.83%	40.87%
Halma PLC	United Kingdom	Information Technology	Technology Hardware & Equipment	39.7%	15.67%	16.37%	35.19%
Marine Harvest ASA	Norway	Consumer Staples	Food, Beverage & Tobacco	43.0%	24.27%	0.89%	65.48%
Reckitt Benckiser Group PLC	United Kingdom	Consumer Staples	Household & Personal Products	20.0%	14.73%	7.57%	35.52%
Rentokil Initial PLC	United Kingdom	Industrials	Commercial & Professional Services	49.3%	28.66%	18.26%	39.20%
SGS SA	Switzerland	Industrials	Commercial & Professional Services	16.7%	10.19%	14.14%	45.99%
Straumann Holding AG	Switzerland	Health Care	Health Care Equipment & Services	29.8%	17.86%	8.46%	79.73%
SABMiller PLC	United Kingdom	Consumer Staples	Food, Beverage & Tobacco	30.2%	10.93%	38.31%	32.63%

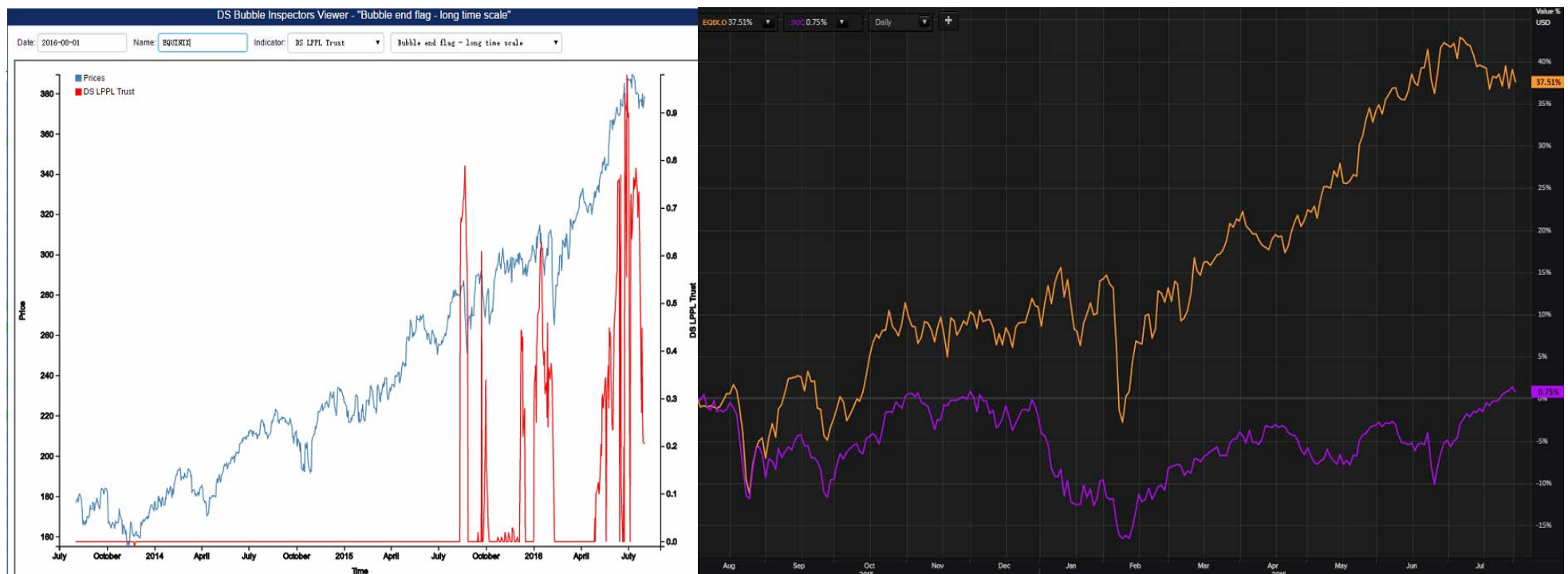
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Quadrant 2 stocks: strong positive bubble signals with weak fundamentals (con't)

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
C R Bard Inc	United States of America	Health Care	Health Care Equipment & Services	15.9%	20.51%	9.80%	69.27%
ConAgra Foods Inc	United States of America	Consumer Staples	Food, Beverage & Tobacco	5.2%	14.61%	34.97%	79.18%
Church & Dwight Co Inc	United States of America	Consumer Staples	Household & Personal Products	13.2%	11.55%	11.36%	49.00%
Dollar General Corp	United States of America	Consumer Discretionary	Retailing	18.3%	16.91%	27.39%	80.18%
Digital Realty Trust Inc	United States of America	Real Estate	Real Estate	61.6%	59.01%	32.41%	16.59%
Federal Realty Investment Trust	United States of America	Real Estate	Real Estate	24.3%	17.15%	20.27%	50.11%
General Mills Inc	United States of America	Consumer Staples	Food, Beverage & Tobacco	23.4%	21.38%	17.26%	55.35%
Johnson & Johnson	United States of America	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	25.4%	33.23%	25.28%	64.14%
Kellogg Co	United States of America	Consumer Staples	Food, Beverage & Tobacco	25.1%	10.56%	11.58%	50.67%
Lockheed Martin Corp	United States of America	Industrials	Capital Goods	22.4%	16.32%	13.81%	68.71%
McCormick & Company Inc	United States of America	Consumer Staples	Food, Beverage & Tobacco	24.7%	10.81%	10.58%	56.35%
Altria Group Inc	United States of America	Consumer Staples	Food, Beverage & Tobacco	24.9%	31.42%	5.12%	63.47%
Northrop Grumman Corp	United States of America	Industrials	Capital Goods	23.5%	15.05%	24.39%	55.46%
Raytheon Co	United States of America	Industrials	Capital Goods	27.0%	10.16%	37.08%	66.04%
Stryker Corp	United States of America	Health Care	Health Care Equipment & Services	14.2%	18.38%	26.39%	72.27%
Waste Management Inc	United States of America	Industrials	Commercial & Professional Services	29.1%	30.21%	35.19%	60.91%
Exxon Mobil Corp	United States of America	Energy	Energy	7.2%	11.86%	37.53%	8.69%
Xylem Inc	United States of America	Industrials	Capital Goods	35.7%	14.01%	36.08%	65.81%
Unilever PLC	United Kingdom	Consumer Staples	Household & Personal Products	22.3%	12.49%	14.25%	31.18%

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Quadrant 2 stocks: strong positive bubble signals with weak fundamentals, example Equinix Inc.



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 37% up. The strong positive bubble signals and weak fundamentals indicate a high probability of correction, which already started recently.

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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
Telenet Group Holding NV	Belgium	Consumer Discretionary	Media	-16.5%	-24.86%	20.16%	22.16%
United Internet AG	Germany	Information Technology	Software & Services	-11.7%	-10.37%	23.27%	45.43%
ITV PLC	United Kingdom	Consumer Discretionary	Media	-27.8%	-21.62%	22.49%	33.63%
Next PLC	United Kingdom	Consumer Discretionary	Retailing	-36.3%	-14.25%	6.79%	29.73%
Pagegroup PLC	United Kingdom	Industrials	Commercial & Professional Services	-36.6%	-10.05%	17.82%	30.62%
L Brands Inc	United States of America	Consumer Discretionary	Retailing	-9.1%	-10.91%	12.14%	17.71%

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Quadrant 3 stocks: strong negative bubble signals with weak fundamentals, example Telenet Group Holding NV.



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). The right graph shows the underperformance of the stock over the last year (orange) with respect to the STOXX index benchmark (purple), it is almost -8% down. We can see that a clear correction started recently. However this correction may not be sustainable due to the weak fundamentals.

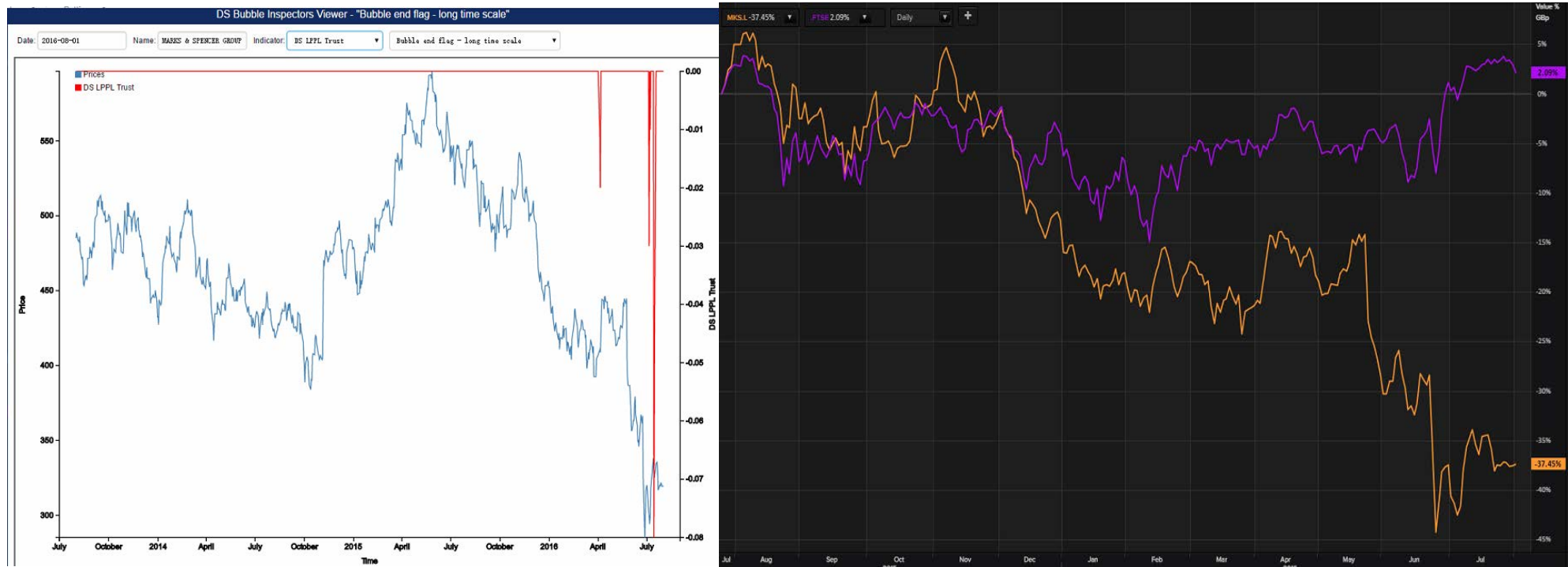
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Quadrant 4 stocks: strong negative bubble signals with strong fundamentals

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
Fraport Frankfurt Airport Services Worldwide AG	Germany	Industrials	Transportation	-17.8%	-10.94%	86.08%	23.27%
Bilfinger SE	Germany	Industrials	Commercial & Professional Services	-27.0%	-10.81%	92.76%	1.00%
Telefonica Deutschland Holding AG	Germany	Telecommunication Services	Telecommunication Services	-34.9%	-17.66%	89.98%	91.98%
easyJet plc	United Kingdom	Industrials	Transportation	-36.7%	-14.69%	73.27%	26.39%
Bollore SA	France	Industrials	Transportation	-35.6%	-19.13%	90.76%	56.79%
Lagardere SCA	France	Consumer Discretionary	Media	-15.3%	-14.64%	79.84%	14.03%
Suez SA	France	Utilities	Utilities	-16.5%	-16.34%	83.07%	77.73%
SFR Group SA	France	Telecommunication Services	Telecommunication Services	-49.5%	-16.26%	80.40%	10.36%
Telecom Italia SpA	Italy	Telecommunication Services	Telecommunication Services	-36.6%	-14.94%	92.32%	96.10%
Marks and Spencer Group PLC	United Kingdom	Consumer Discretionary	Retailing	-40.1%	-15.80%	79.06%	27.17%
Yara International ASA	Norway	Materials	Materials	-33.0%	-20.08%	87.53%	5.46%
Swatch Group SA	Switzerland	Consumer Discretionary	Consumer Durables & Apparel	-38.0%	-16.55%	84.52%	5.68%
Sky PLC	United Kingdom	Consumer Discretionary	Media	-17.7%	-22.45%	60.02%	28.51%
Thomas Cook Group plc	United Kingdom	Consumer Discretionary	Consumer Services	-48.4%	-26.18%	98.22%	29.06%
Signet Jewelers Ltd	Bermuda	Consumer Discretionary	Retailing	-27.9%	-13.79%	73.50%	93.32%
Valero Energy Corp	United States of America	Energy	Energy	-18.6%	-10.09%	70.82%	0.67%

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Quadrant 4 stocks: strong negative bubble signals with strong fundamentals, example Marks and Spencer Group 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 of the negative bubble. The right graph shows the performance of the stock over the last year (orange) with respect to the FTSE benchmark (purple), it is -35%. We can see a correction started these days, which is due to our diagnostic of a negative bubble signal with strong fundamentals.

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Sectors

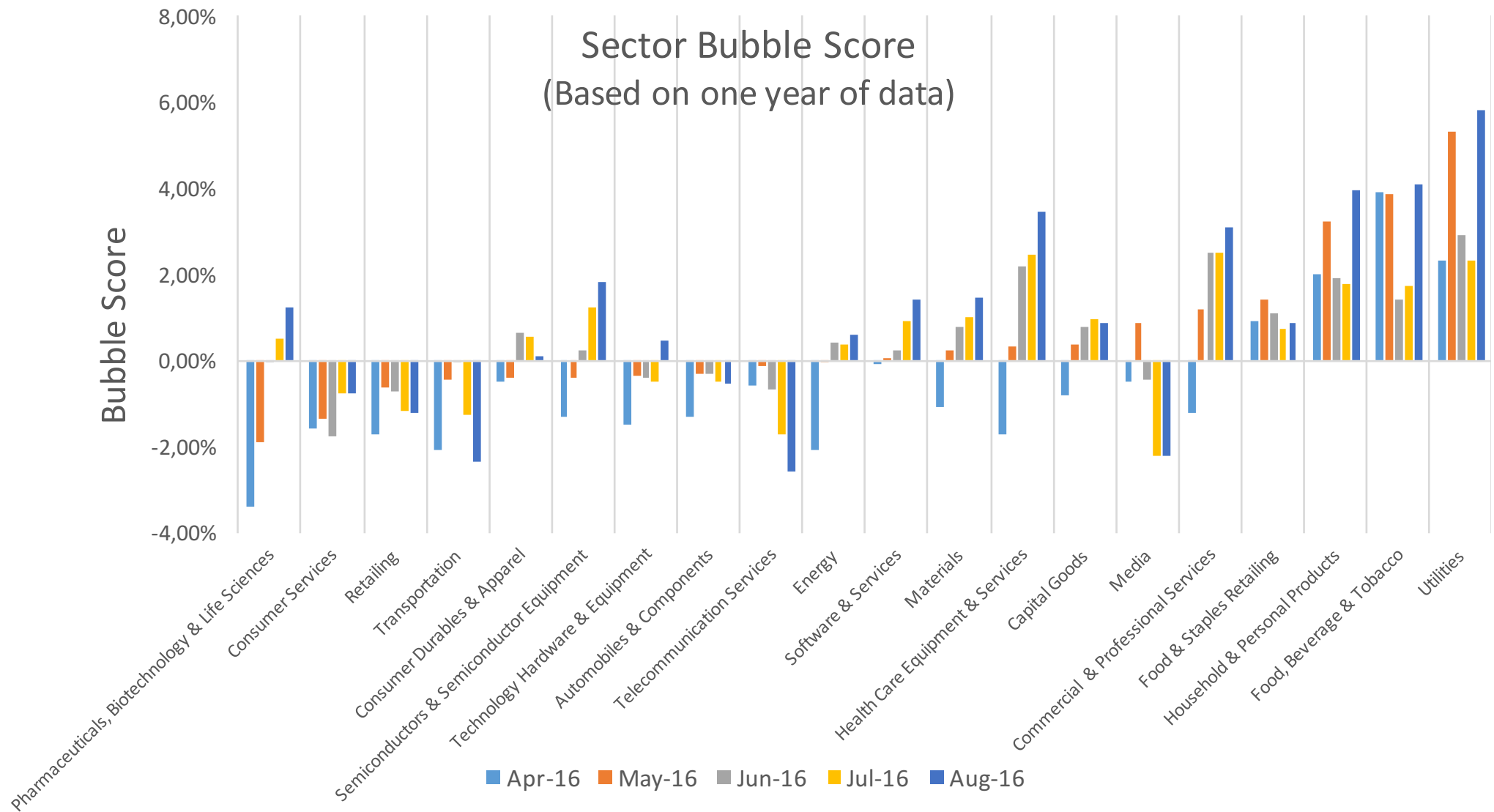
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GICS Industry Group Name	Yearly Return		Bubble Score		Value Score		Growth Score	
	Aug 1st	July 1st	Aug 1st	July 1st	Aug 1st	July 1st	Aug 1st	July 1st
Pharmaceuticals, Biotechnology & Life Sciences	-2.2%	-2.9%	1.2%	0.5%	36.2%	37.8%	56.7%	55.9%
Consumer Services	-1.5%	-6.8%	-0.8%	-0.8%	39.6%	41.7%	53.3%	53.2%
Retailing	-6.0%	-10.9%	-1.2%	-1.2%	38.1%	40.0%	50.2%	49.9%
Transportation	-7.0%	-6.8%	-2.3%	-1.3%	59.1%	60.4%	48.9%	49.3%
Consumer Durables & Apparel	-1.9%	-7.8%	0.1%	0.6%	48.1%	50.1%	59.7%	58.6%
Semiconductors & Semiconductor Equipment	17.6%	-0.3%	1.8%	1.2%	47.3%	50.8%	51.6%	50.0%
Technology Hardware & Equipment	-2.2%	-7.3%	0.5%	-0.5%	52.5%	54.3%	44.1%	40.8%
Automobiles & Components	-10.2%	-24.2%	-0.5%	-0.5%	69.3%	70.8%	66.8%	69.2%
Telecommunication Services	-11.5%	-11.6%	-2.6%	-1.7%	64.4%	63.8%	56.6%	57.3%
Energy	-7.4%	-10.4%	0.6%	0.4%	62.3%	60.0%	25.2%	22.8%
Software & Services	12.5%	8.8%	1.4%	0.9%	37.5%	39.3%	61.2%	63.0%
Materials	5.8%	-2.9%	1.5%	1.0%	57.0%	57.4%	47.2%	47.8%
Health Care Equipment & Services	10.4%	10.5%	3.4%	2.4%	38.7%	38.7%	66.8%	68.0%
Capital Goods	5.0%	-1.6%	0.9%	0.9%	48.8%	50.6%	47.8%	48.1%
Media	-8.0%	-11.3%	-2.2%	-2.2%	51.1%	51.8%	53.9%	52.7%
Commercial & Professional Services	1.9%	-0.3%	3.1%	2.5%	39.4%	40.9%	47.5%	48.9%
Food & Staples Retailing	-3.5%	1.3%	0.9%	0.7%	54.3%	54.8%	47.3%	47.8%
Household & Personal Products	10.3%	16.5%	4.0%	1.8%	18.2%	17.4%	47.9%	46.9%
Food, Beverage & Tobacco	15.7%	18.3%	4.1%	1.7%	32.7%	31.8%	51.3%	49.6%
Utilities	11.1%	14.7%	5.8%	2.3%	74.3%	73.1%	43.3%	40.5%

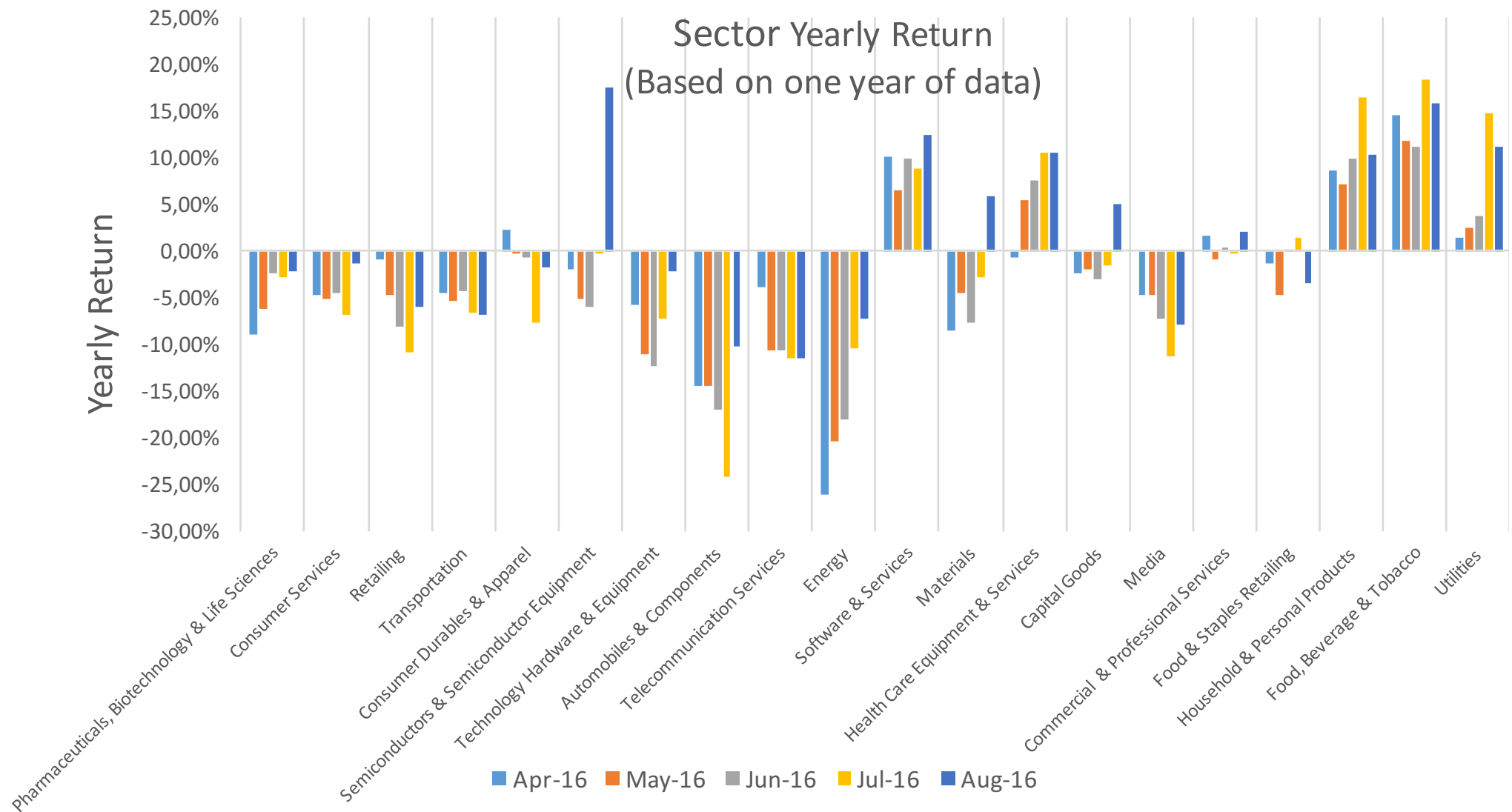
By aggregating the calculations that were done at the single stock level in the previous section, we can see the bubble, value and growth score at the sector level. The results in the previous report are also presented here for comparison.

- The sector *Automobiles & Components* we recommended in the last three months still maintain a very strong value score with a negative bubble score, hence the investment opportunity still exists; The sector *Telecommunication Services* has a significant increase again in its negative bubble score, while the value score is still at a high level, showing a great contrarian long opportunity in this sector.
- The sector *Household & Personal Products*, *Food, Beverage & Tobacco*, *Utilities* have higher bubble scores compared to last months, due to weak expectations of economic growth leading to money flows in defending sectors.

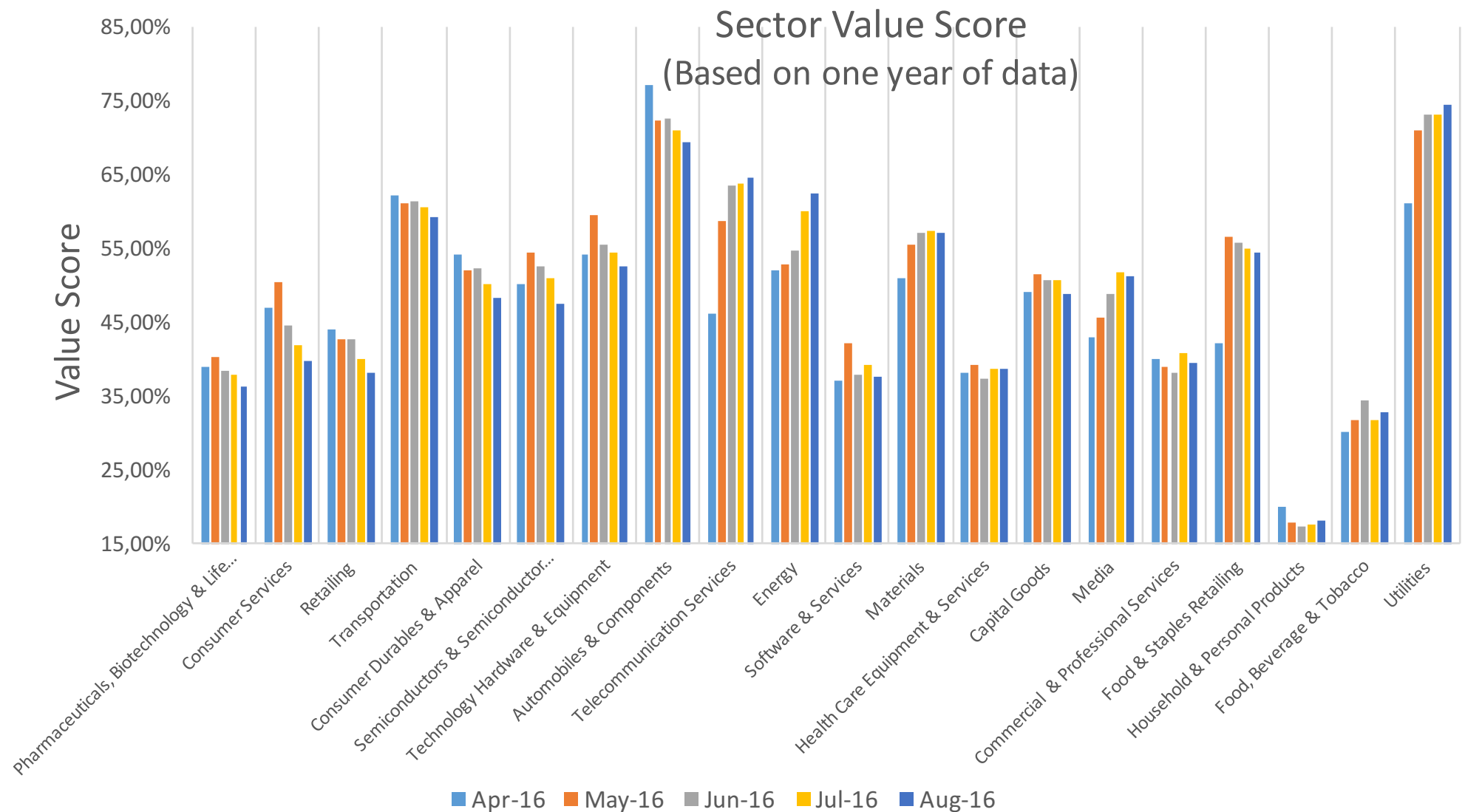
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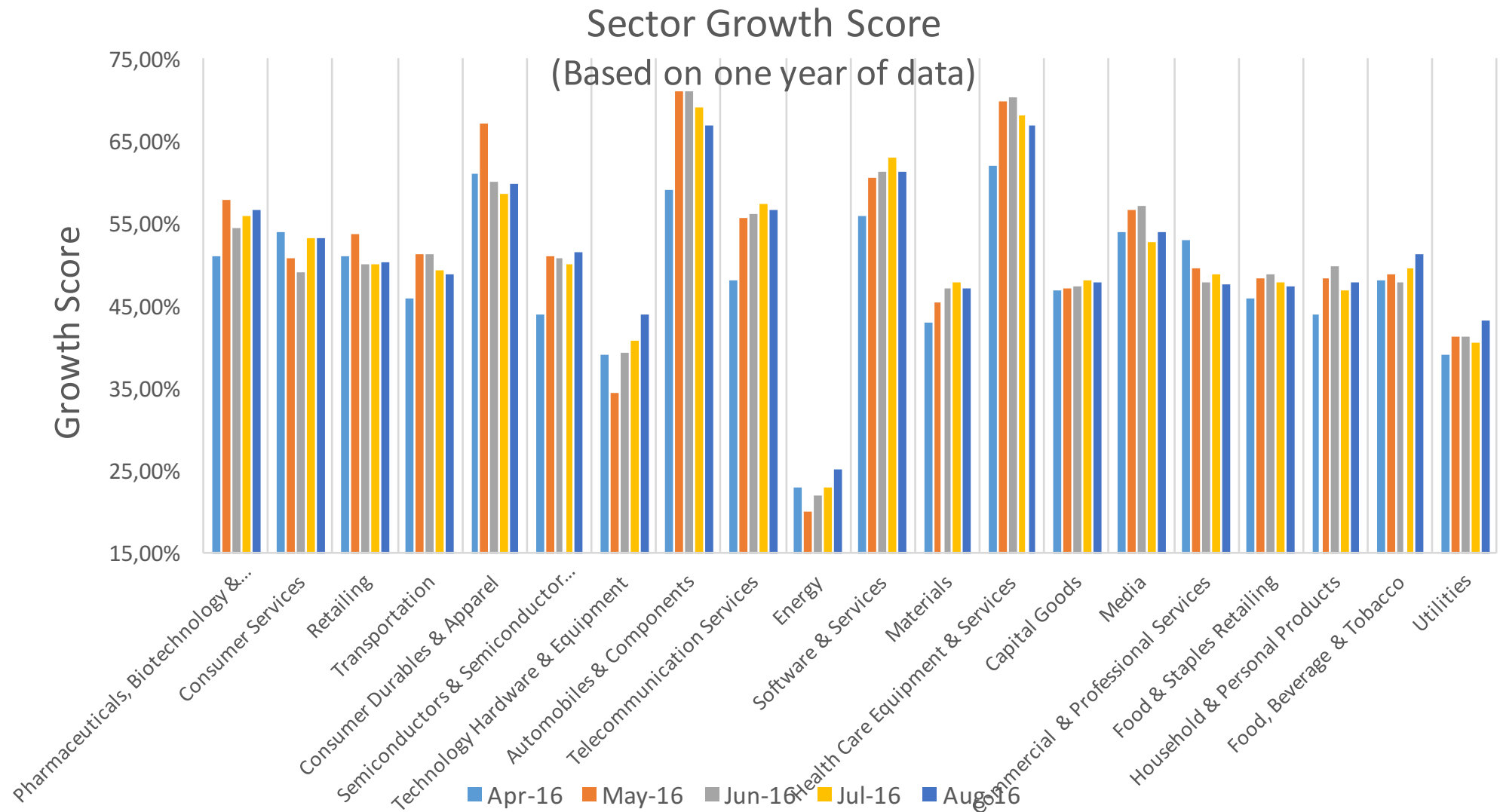
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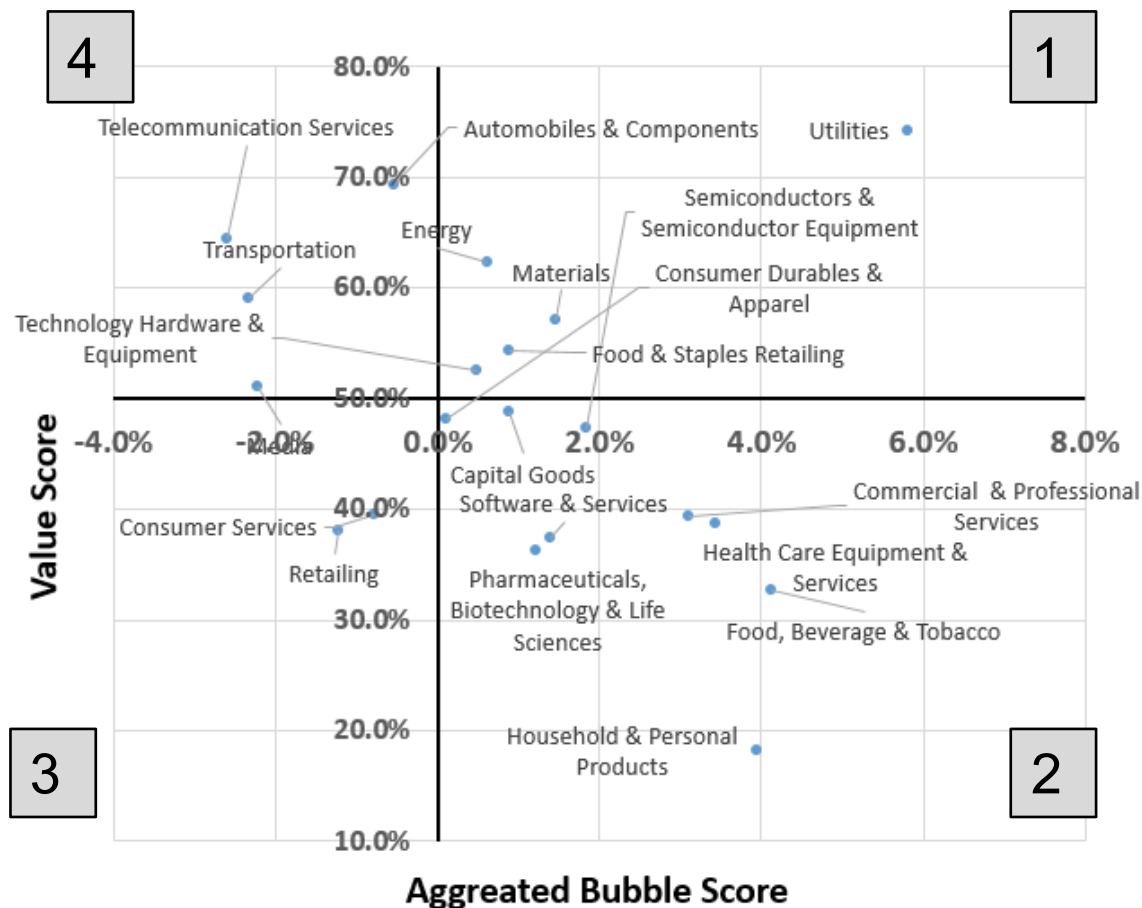
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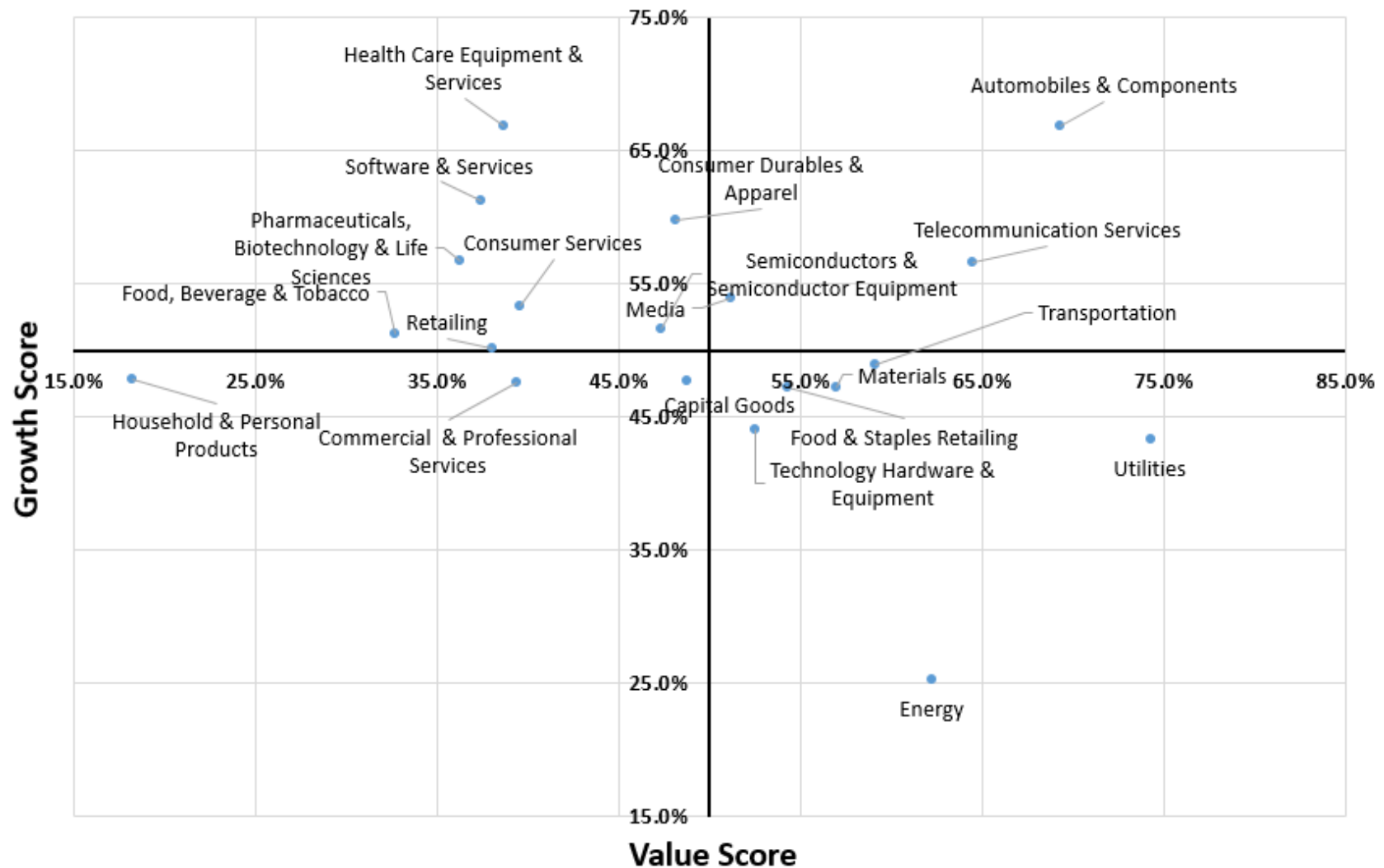


By plotting the value score versus the aggregated bubble score, we can also divide the sectors into four quadrants*:

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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Portfolio Construction and Performance

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

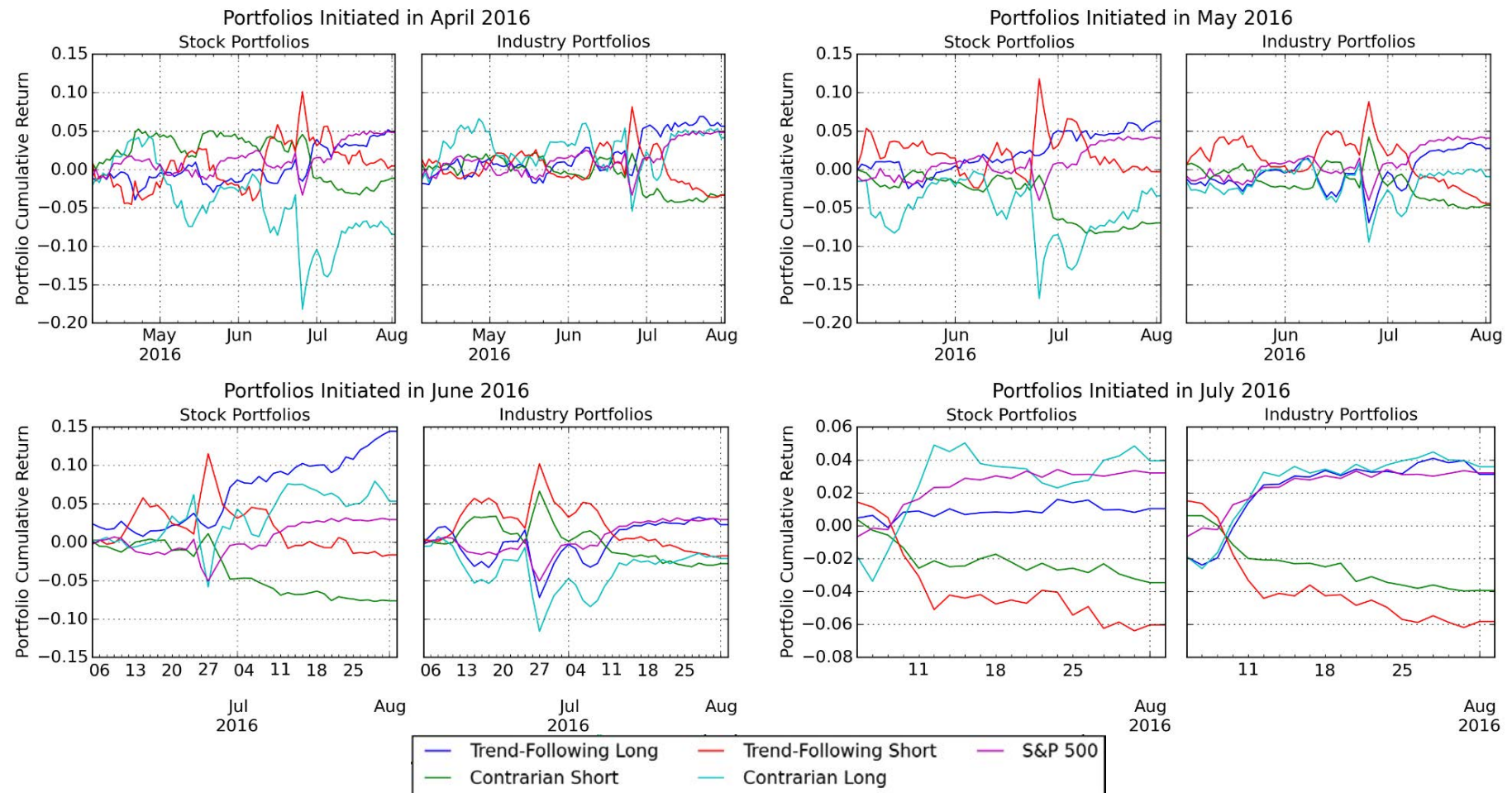
For individual stocks that we identified in the 4 quadrants, we constructed 4 portfolios based on the 4 quadrants defined in the last report. Each portfolio consists of all the stocks listed in the corresponding quadrant.

- (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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We find that Trend-Following Long portfolios perform better than all other types of portfolios for these four classes of portfolios initiated in April, May, June and July. By contrast, Trend-Following Short portfolios tend to provide positive returns only at relatively short times. Contrarian Portfolios are more delicate to use with very volatile performances, indicating that most of bubbles in the market are still dominating and fundamentals have not yet played out.

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For information, see

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