The FCO Cockpit
Global Bubble Status Report

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Announcement

Dear supporters and followers of FCO,

We are sorry about the delay of the report this month. We are experiencing a few technical issues and personnel changes. Therefore, we only publish the part on single stocks this month. At the same time, we are working on a new improved version of our methodology and reports, which will be published next month.

Thank you very much for your long-term understanding and supports. Should you have any questions, please do not hesitate to contact us.

Best regards,

Chair of Entrepreneurial Risks

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About

The Financial Crisis Observatory (FCO) 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 847 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

Methodology

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

1. Price rises faster than exponentially, therefore 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%.
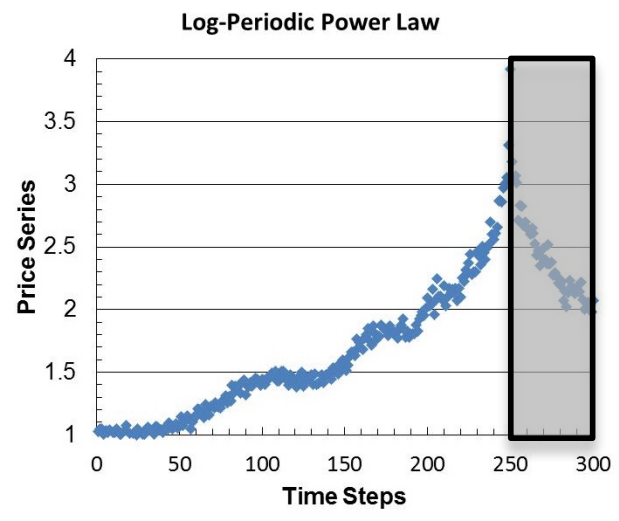
Positive bubble: imitation in **buying**
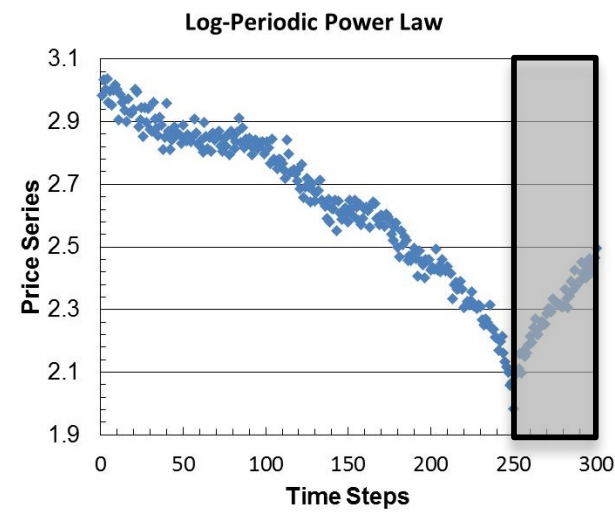
Negative bubble: imitation in **selling**

Single Stocks

For 847 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.
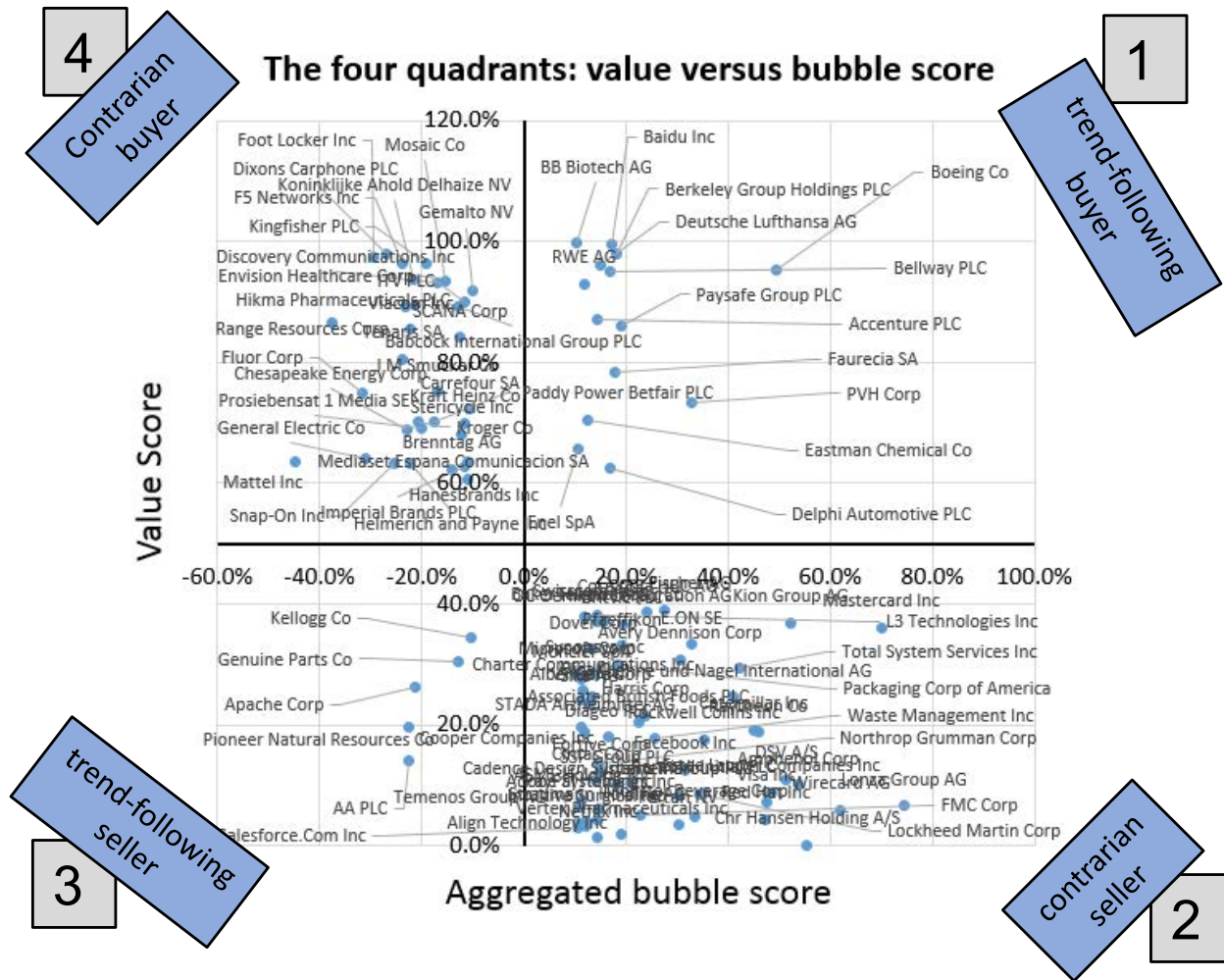
The two financial strength indicators are:

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.

Single Stocks

The four quadrants: value versus bubble score

4 Contrarian buyer

1 trend-following buyer

3 trend-following seller

2 contrarian seller

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. RWE AG);

2. Quadrant 2: Stocks with a strong positive bubble score and a weak value score (e.g. FMC Corp);

3. Quadrant 3: Stocks with a strong negative bubble score and a weak value score (e.g. AA PLC);

4. Quadrant 4: Stocks with strong negative bubble score and a strong financial strength (e.g. Mattel 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%.
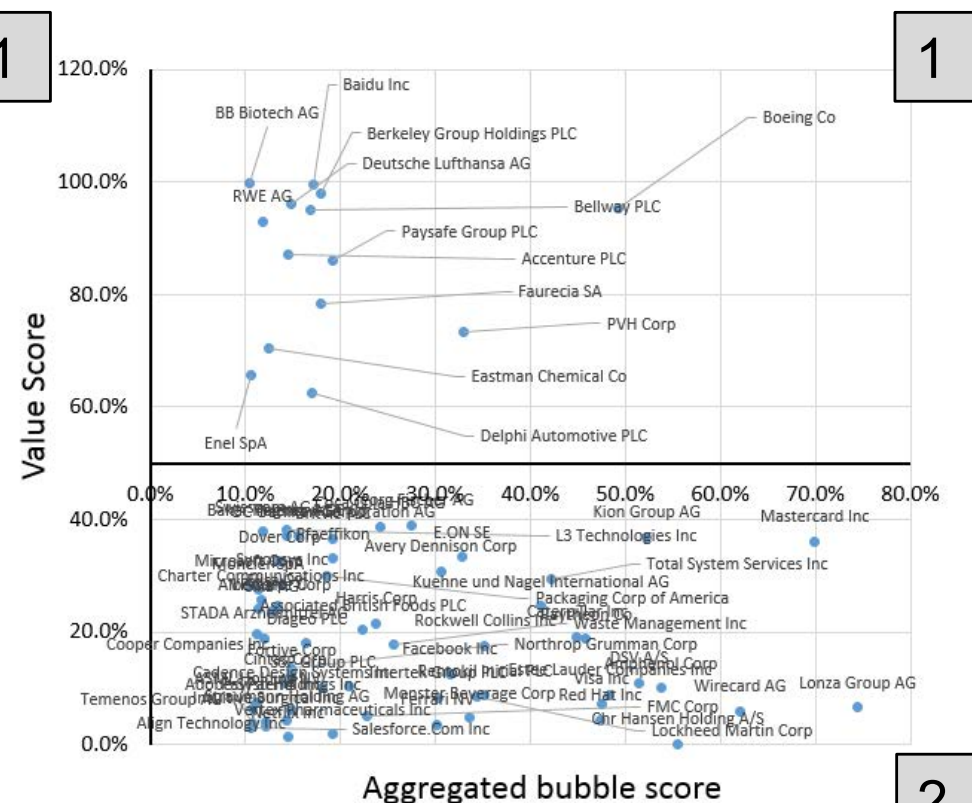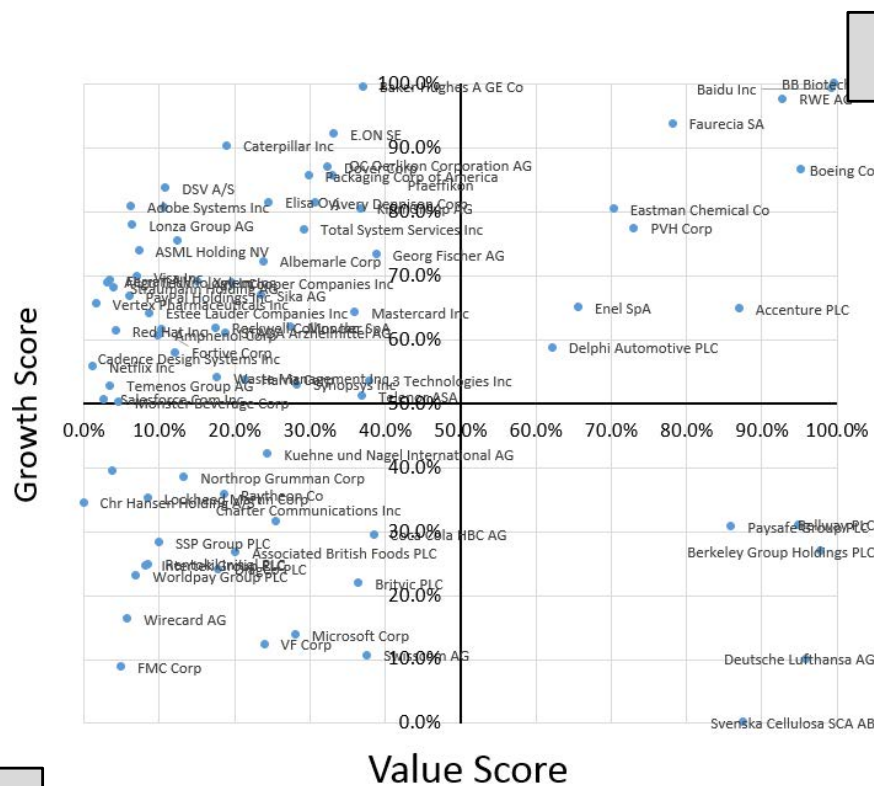
Single Stocks

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.

Single Stocks

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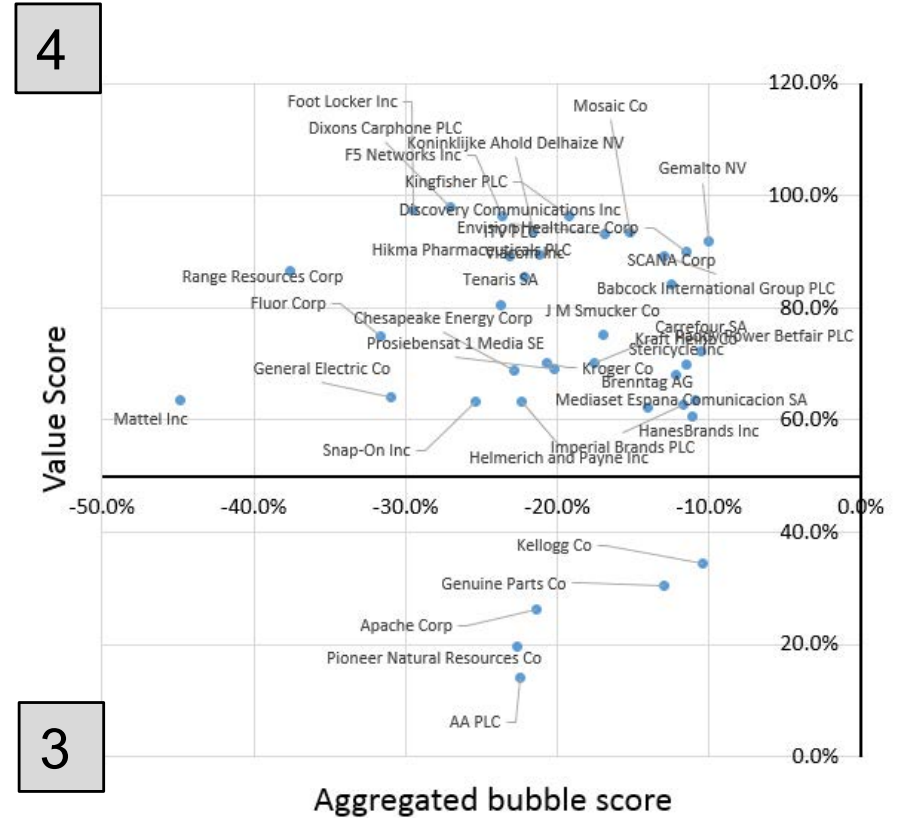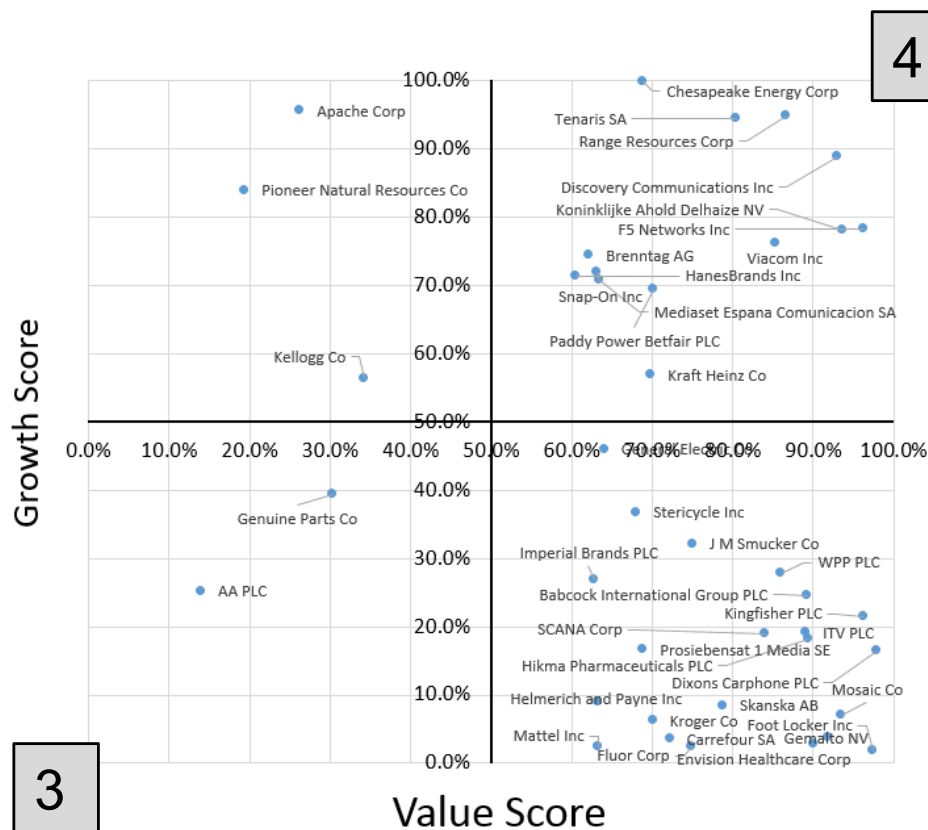Strong positive bubble signals with strong (respectively weak) fundamentals

Single Stocks

Quadrant 3 and 4 stocks

Strong negative bubble signals with weak respectively strong fundamentals

Single Stocks - Quadrant 1 stocks

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
Baidu Inc	China	Information Technology	Software & Services	35.5%	17.1%	99.4%	99.2%
Berkeley Group Holdings PLC	United Kingdom	Consumer Discretionary	Consumer Durables & Apparel	46.4%	18.0%	97.9%	26.8%
Bellway PLC	United Kingdom	Consumer Discretionary	Consumer Durables & Apparel	41.8%	16.8%	95.0%	30.9%
Deutsche Lufthansa AG	Germany	Industrials	Transportation	145.5%	14.9%	96.0%	9.9%
RWE AG	Germany	Utilities	Utilities	27.5%	11.8%	92.9%	97.5%
Faurecia SA	France	Consumer Discretionary	Automobiles & Components	68.9%	17.9%	78.3%	93.6%
Enel SpA	Italy	Utilities	Utilities	30.7%	10.6%	65.8%	64.9%
Paysafe Group PLC	Isle of Man	Information Technology	Software & Services	27.8%	19.2%	86.1%	30.7%
BB Biotech AG	Switzerland	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	31.5%	10.4%	99.6%	99.9%
Accenture PLC	Ireland; Republic of	Information Technology	Software & Services	12.1%	14.5%	87.1%	64.7%
Boeing Co	United States of America	Industrials	Capital Goods	93.4%	49.3%	95.3%	86.4%
Delphi Automotive PLC	United Kingdom	Consumer Discretionary	Automobiles & Components	40.3%	17.0%	62.3%	58.7%
Eastman Chemical Co	United States of America	Materials	Materials	35.4%	12.5%	70.5%	80.3%
PVH Corp	United States of America	Consumer Discretionary	Consumer Durables & Apparel	13.9%	32.9%	73.2%	77.3%
Svenska Cellulosa SCA AB	Sweden	Materials	Materials	53.1%	16.1%	87.7%	0.0%

Single Stocks - Quadrant 1 stocks

Quadrant 1 stocks: strong positive bubble signals with strong fundamentals
Example: Eastman Chemical Co.

The 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 convergence towards 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&P 500 benchmark (purple), which is almost 18%.

Single Stocks - Quadrant 1 stocks

Last month example: strong positive bubble signals with strong fundamentals, PVH Corp.

Note that a 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. One should remain cautious as this stock is still identified with strong bubble signal this month.

Last month signal (1st Sep. 2017)   This month signal (1st Oct. 2017)

Single Stocks - Quadrant 2 stocks

Quadrant 2 stocks: strong positive bubble signals with weak fundamentals

This month we again observe an abnormally large number of stocks in this Quadrant.

This suggests that the fundamentals are still dominantly weak while there is a general positive investment sentiment, possibly in denial of the weakness of the existing recovery.

Single Stocks - Quadrant 2 stocks

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
Adobe Systems Inc	United States of America	Information Technology	Software & Services	36.4%	10.8%	6.4%	80.6%
Align Technology Inc	United States of America	Health Care	Health Care Equipment & Services	107.5%	12.1%	3.3%	68.8%
Cadence Design Systems Inc	United States of America	Information Technology	Software & Services	56.2%	20.9%	10.4%	61.4%
Charter Communications Inc	United States of America	Consumer Discretionary	Media	35.8%	11.6%	25.6%	31.4%
Cintas Corp	United States of America	Industrials	Commercial & Professional Services	29.4%	14.2%	10.7%	80.5%
Facebook Inc	United States of America	Information Technology	Software & Services	31.6%	31.5%	12.5%	75.3%
Intuitive Surgical Inc	United States of America	Health Care	Health Care Equipment & Services	47.7%	12.1%	3.9%	39.3%
Monster Beverage Corp	United States of America	Consumer Staples	Food, Beverage & Tobacco	13.5%	33.6%	4.7%	50.1%
Microsoft Corp	United States of America	Information Technology	Software & Services	29.9%	10.3%	28.2%	13.7%
Netflix Inc	United States of America	Consumer Discretionary	Retailing	72.5%	14.4%	1.3%	55.6%
PayPal Holdings Inc	United States of America	Information Technology	Software & Services	58.1%	14.8%	6.1%	66.6%
Synopsys Inc	United States of America	Information Technology	Software & Services	37.8%	13.9%	28.5%	52.9%
Vertex Pharmaceuticals Inc	United States of America	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	75.4%	19.1%	1.8%	65.5%
Associated British Foods PLC	United Kingdom	Consumer Staples	Food, Beverage & Tobacco	23.2%	22.4%	20.3%	26.6%
Britvic PLC	United Kingdom	Consumer Staples	Food, Beverage & Tobacco	22.5%	19.2%	36.6%	21.8%
Coca Cola HBC AG	Switzerland	Consumer Staples	Food, Beverage & Tobacco	41.3%	24.2%	38.6%	29.4%
E.ON SE	Germany	Utilities	Utilities	53.4%	32.8%	33.3%	92.0%
Kion Group AG	Germany	Industrials	Capital Goods	41.3%	52.2%	36.8%	80.4%
STADA Arzneimittel AG	Germany	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	67.8%	12.0%	18.9%	60.9%
Wirecard AG	Germany	Information Technology	Software & Services	68.9%	62.0%	5.9%	16.2%
Diageo PLC	United Kingdom	Consumer Staples	Food, Beverage & Tobacco	9.8%	16.4%	17.9%	24.0%

Single Stocks - Quadrant 2 stocks

Quadrant 2 stocks: strong positive bubble signals with weak fundamentals (cont'd)

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
Chr Hansen Holding A/S	Denmark	Materials	Materials	36.2%	55.5%	0.1%	34.4%
DSV A/S	Denmark	Industrials	Transportation	46.5%	51.4%	11.0%	83.6%
ASML Holding NV	Netherlands	Information Technology	Semiconductors & Semiconductor Equipment	49.5%	11.3%	7.4%	73.8%
Moncler SpA	Italy	Consumer Discretionary	Consumer Durables & Apparel	63.3%	11.3%	27.6%	61.9%
Ferrari NV	Italy	Consumer Discretionary	Automobiles & Components	106.5%	30.2%	3.5%	69.2%
Intertek Group PLC	United Kingdom	Industrials	Commercial & Professional Services	42.6%	30.3%	8.3%	24.6%
Elisa Oyj	Finland	Telecommunication Services	Telecommunication Services	12.0%	13.3%	24.7%	81.3%
Telenor ASA	Norway	Telecommunication Services	Telecommunication Services	23.3%	15.5%	37.1%	51.0%
Rentokil Initial PLC	United Kingdom	Industrials	Commercial & Professional Services	34.3%	35.2%	8.7%	24.8%
Georg Fischer AG	Switzerland	Industrials	Capital Goods	39.3%	27.5%	39.0%	73.2%
Kuehne und Nagel International AG	Switzerland	Industrials	Transportation	27.9%	41.1%	24.6%	42.0%
Lonza Group AG	Switzerland	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	49.2%	74.4%	6.6%	77.8%
Swisscom AG	Switzerland	Telecommunication Services	Telecommunication Services	8.1%	11.8%	37.8%	10.5%
Sika AG	Switzerland	Materials	Materials	53.1%	12.8%	23.6%	66.8%
Straumann Holding AG	Switzerland	Health Care	Health Care Equipment & Services	65.4%	14.4%	4.1%	68.0%
Temenos Group AG	Switzerland	Information Technology	Software & Services	47.3%	10.7%	3.7%	52.7%
OC Oerlikon Corporation AG Pfaeffikon	Switzerland	Industrials	Capital Goods	55.7%	19.2%	33.2%	85.6%
SSP Group PLC	United Kingdom	Consumer Discretionary	Consumer Services	69.4%	18.2%	10.2%	28.1%
Albemarle Corp	United States of America	Materials	Materials	61.1%	13.1%	24.0%	72.1%
Amphenol Corp	United States of America	Information Technology	Technology Hardware & Equipment	31.6%	53.7%	10.0%	60.6%
Avery Dennison Corp	United States of America	Materials	Materials	27.4%	30.5%	30.8%	81.2%
Baker Hughes A GE Co	United States of America	Energy	Energy	5.8%	14.4%	37.2%	99.4%

Single Stocks - Quadrant 2 stocks

Quadrant 2 stocks: strong positive bubble signals with weak fundamentals (cont'd)

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
Caterpillar Inc	United States of America	Industrials	Capital Goods	41.3%	44.9%	19.1%	90.2%
Rockwell Collins Inc	United States of America	Industrials	Capital Goods	56.9%	35.2%	17.6%	61.7%
Cooper Companies Inc	United States of America	Health Care	Health Care Equipment & Services	35.3%	11.2%	19.7%	68.7%
Salesforce.Com Inc	United States of America	Information Technology	Software & Services	33.2%	10.5%	2.8%	50.5%
Dover Corp	United States of America	Industrials	Capital Goods	25.8%	13.6%	32.5%	86.8%
Estee Lauder Companies Inc	United States of America	Consumer Staples	Household & Personal Products	22.9%	48.4%	8.9%	64.0%
FMC Corp	United States of America	Materials	Materials	84.7%	22.9%	5.1%	8.7%
Fortive Corp	United States of America	Industrials	Capital Goods	39.2%	14.9%	12.3%	57.9%
Harris Corp	United States of America	Information Technology	Technology Hardware & Equipment	45.1%	23.8%	21.5%	53.6%
L3 Technologies Inc	United States of America	Industrials	Capital Goods	26.8%	14.4%	38.0%	53.5%
Lockheed Martin Corp	United States of America	Industrials	Capital Goods	29.4%	34.3%	8.6%	35.1%
Mastercard Inc	United States of America	Information Technology	Software & Services	39.2%	69.9%	36.1%	64.1%
Northrop Grumman Corp	United States of America	Industrials	Capital Goods	34.8%	14.8%	13.5%	38.4%
Packaging Corp of America	United States of America	Materials	Materials	44.1%	18.6%	30.0%	85.5%
Red Hat Inc	United States of America	Information Technology	Software & Services	39.9%	47.3%	4.4%	61.3%
Raytheon Co	United States of America	Industrials	Capital Goods	36.8%	45.9%	18.8%	35.7%
Total System Services Inc	United States of America	Information Technology	Software & Services	37.1%	42.1%	29.4%	77.1%
Visa Inc	United States of America	Information Technology	Software & Services	27.3%	47.5%	7.2%	69.7%
VF Corp	United States of America	Consumer Discretionary	Consumer Durables & Apparel	13.8%	11.3%	24.1%	12.3%
Waste Management Inc	United States of America	Industrials	Commercial & Professional Services	24.1%	25.7%	17.8%	54.0%
Xylem Inc	United States of America	Industrials	Capital Goods	20.7%	42.1%	15.1%	68.9%
Worldpay Group PLC	United Kingdom	Information Technology	Software & Services	35.6%	28.1%	7.1%	22.9%

Single Stocks - Quadrant 2 stocks

Quadrant 2 stocks: strong positive bubble signals with weak fundamentals
Example: Vertex Pharmaceuticals Inc.

The 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 63% up. The strong positive bubble signals and weak fundamentals indicate a high probability of correction, which already started recently.

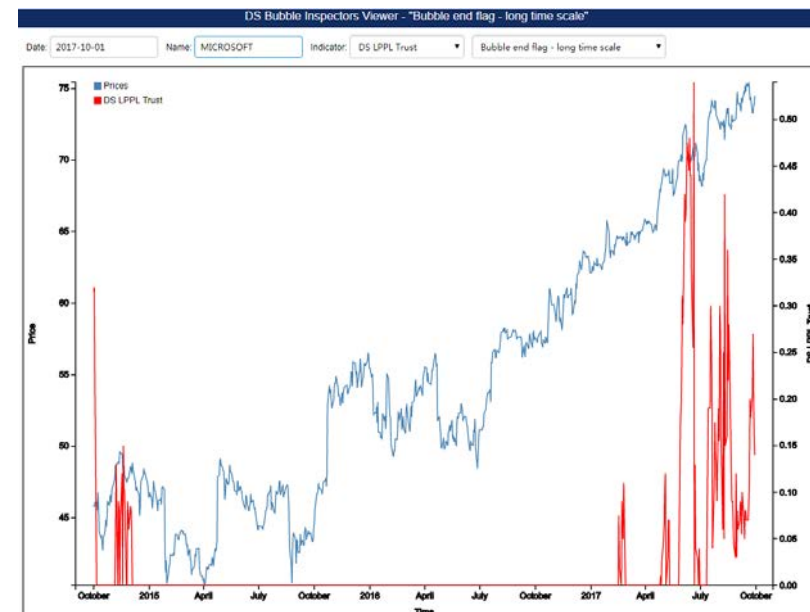# Single Stocks - Quadrant 2 stocks

Last month example: strong positive bubble signals with weak fundamentals, Microsoft Corp.

Note that the stock went up and then down, closing almost at the same value at the end of September. This volatility, together with our DS LPPL trust indicator and weak fundamentals, suggests continuing to get out of a long position on this stock.

Last month signal (1st Sep. 2017)

This month signal (1st Oct. 2017)

Single Stocks - Quadrant 3 stocks

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
AA PLC	United Kingdom	Consumer Discretionary	Consumer Services	-44.1%	-22.4%	14.0%	25.1%
Apache Corp	United States of America	Energy	Energy	-28.5%	-21.3%	26.3%	95.5%
Genuine Parts Co	United States of America	Consumer Discretionary	Retailing	-3.5%	-13.0%	30.3%	39.4%
Kellogg Co	United States of America	Consumer Staples	Food, Beverage & Tobacco	-18.8%	-10.4%	34.4%	56.2%
Pioneer Natural Resources Co	United States of America	Energy	Energy	-18.4%	-22.6%	19.5%	83.8%

Single Stocks - Quadrant 3 stocks

Quadrant 3 stocks: strong negative bubble signals with weak fundamentals
Example: Pioneer Natural Resources Co.
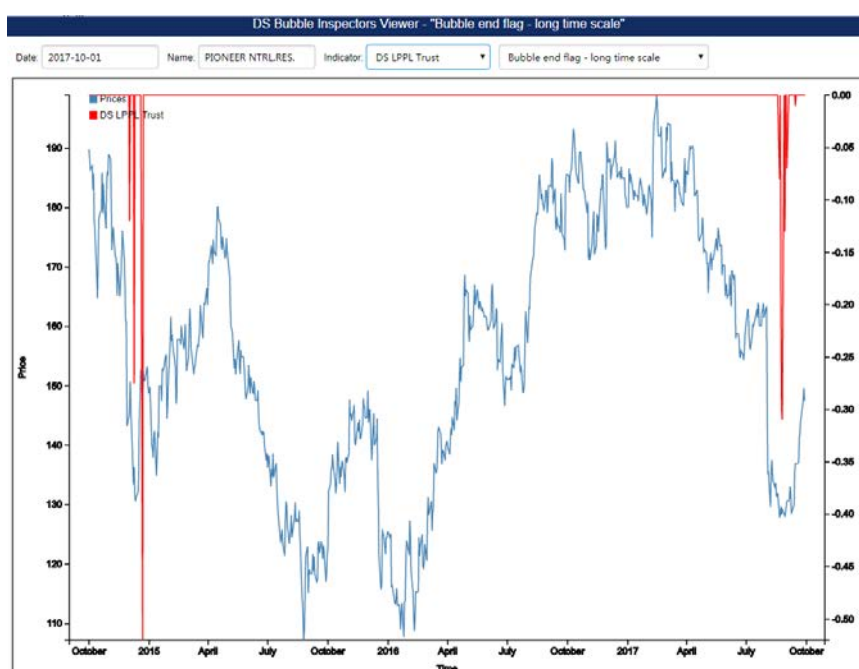
Left graph is a standard output from the Financial Crisis Observatory. It shows the historical price evolution of the stock in blue (left hand scale) and the calculated bubble warning index DS LPPL Trust in red (right hand scale). We can see a clearly spiking warning of the negative bubble. The right graph shows the performance of the stock over the last year (orange) with respect to the S&P 500 benchmark (purple), it is roughly -39%.

Single Stocks - Quadrant 3 stocks

Last month example: strong negative bubble signals with weak fundamentals, Halliburton Co.

Note that the stock had a strong rebound in the past month, in synchrony with our DS LPPL trust indicator, notwithstanding the weak fundamentals. This is an example illustrating the power of market psychology over fundamentals. However, one should remain cautious as there is still downward risk for this stock.

Last month signal (1st Sep. 2017)

This month signal (1st Oct. 2017)

Entrepreneurial Risks

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Swiss Federal Institute of Technology Zurich

Single Stocks - Quadrant 4 stocks

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
Discovery Communications Inc	United States of America	Consumer Discretionary	Media	-21.4%	-16.9%	93.0%	88.8%
F5 Networks Inc	United States of America	Information Technology	Technology Hardware & Equipment	-0.5%	-23.7%	96.3%	78.2%
Kraft Heinz Co	United States of America	Consumer Staples	Food, Beverage & Tobacco	-12.6%	-11.5%	69.9%	56.8%
Mattel Inc	United States of America	Consumer Discretionary	Consumer Durables & Apparel	-50.0%	-44.9%	63.4%	2.4%
Stericycle Inc	United States of America	Industrials	Commercial & Professional Services	-8.9%	-12.2%	68.1%	36.7%
Viacom Inc	United States of America	Consumer Discretionary	Media	-27.3%	-22.2%	85.4%	76.2%
Babcock International Group PLC	United Kingdom	Industrials	Commercial & Professional Services	-21.3%	-13.0%	89.3%	24.4%
Brenntag AG	Germany	Industrials	Capital Goods	-3.4%	-14.1%	62.2%	74.4%
Prosiebensat 1 Media SE	Germany	Consumer Discretionary	Media	-24.1%	-20.2%	68.9%	16.6%
Dixons Carphone PLC	United Kingdom	Consumer Discretionary	Retailing	-47.9%	-27.0%	98.0%	16.5%
Mediaset Espana Comunicacion SA	Spain	Consumer Discretionary	Media	-10.0%	-10.9%	63.5%	70.7%
Carrefour SA	France	Consumer Staples	Food & Staples Retailing	-26.1%	-10.5%	72.3%	3.5%
Koninklijke Ahold Delhaize NV	Netherlands	Consumer Staples	Food & Staples Retailing	-22.0%	-21.6%	93.6%	78.0%
Gemalto NV	Netherlands	Information Technology	Software & Services	-33.3%	-10.1%	91.9%	3.7%
Hikma Pharmaceuticals PLC	United Kingdom	Health Care	Pharmaceuticals, Biotechnology & Life Sciences	-42.0%	-21.2%	89.4%	18.2%
Tenaris SA	Luxembourg	Energy	Energy	-5.2%	-23.8%	80.5%	94.3%

Single Stocks - Quadrant 4 stocks

**Quadrant 4 stocks:** strong negative bubble signals with strong fundamentals (cont'd)

Company Name	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	Bubble Score	Value Score	Growth Score
Imperial Brands PLC	United Kingdom	Consumer Staples	Food, Beverage & Tobacco	-21.7%	-11.7%	62.8%	26.9%
ITV PLC	United Kingdom	Consumer Discretionary	Media	-5.7%	-23.1%	89.1%	19.1%
Kingfisher PLC	United Kingdom	Consumer Discretionary	Retailing	-21.3%	-19.2%	96.2%	21.4%
Paddy Power Betfair PLC	Ireland; Republic of	Consumer Discretionary	Consumer Services	-17.7%	-17.6%	70.2%	69.3%
Chesapeake Energy Corp	United States of America	Energy	Energy	-32.0%	-22.8%	68.8%	99.8%
Envision Healthcare Corp	United States of America	Health Care	Health Care Equipment & Services	-32.1%	-11.5%	90.1%	2.7%
Foot Locker Inc	United States of America	Consumer Discretionary	Retailing	-48.5%	-29.5%	97.4%	1.9%
Fluor Corp	United States of America	Industrials	Capital Goods	-14.7%	-31.6%	75.0%	2.5%
General Electric Co	United States of America	Industrials	Capital Goods	-17.1%	-31.0%	64.1%	45.9%
HanesBrands Inc	United States of America	Consumer Discretionary	Consumer Durables & Apparel	-2.0%	-11.1%	60.6%	71.3%
Helmerich and Payne Inc	United States of America	Energy	Energy	-24.0%	-22.4%	63.3%	9.0%
Kroger Co	United States of America	Consumer Staples	Food & Staples Retailing	-31.8%	-20.7%	70.1%	6.3%
Mosaic Co	United States of America	Materials	Materials	-12.6%	-15.2%	93.5%	7.0%
Range Resources Corp	United States of America	Energy	Energy	-47.8%	-37.6%	86.7%	94.7%
SCANA Corp	United States of America	Utilities	Utilities	-32.1%	-12.5%	84.1%	19.0%
J M Smucker Co	United States of America	Consumer Staples	Food, Beverage & Tobacco	-22.7%	-17.0%	75.1%	32.1%
Snap-On Inc	United States of America	Industrials	Capital Goods	-1.8%	-25.4%	63.2%	71.9%
Skanska AB	Sweden	Industrials	Capital Goods	-5.6%	-11.2%	78.9%	8.4%
WPP PLC	United Kingdom	Consumer Discretionary	Media	-24.0%	-27.8%	86.0%	27.7%

Single Stocks - Quadrant 4 stocks

Quadrant 4 stocks: strong negative bubble signals with strong fundamentals
Example: Mattel Inc.
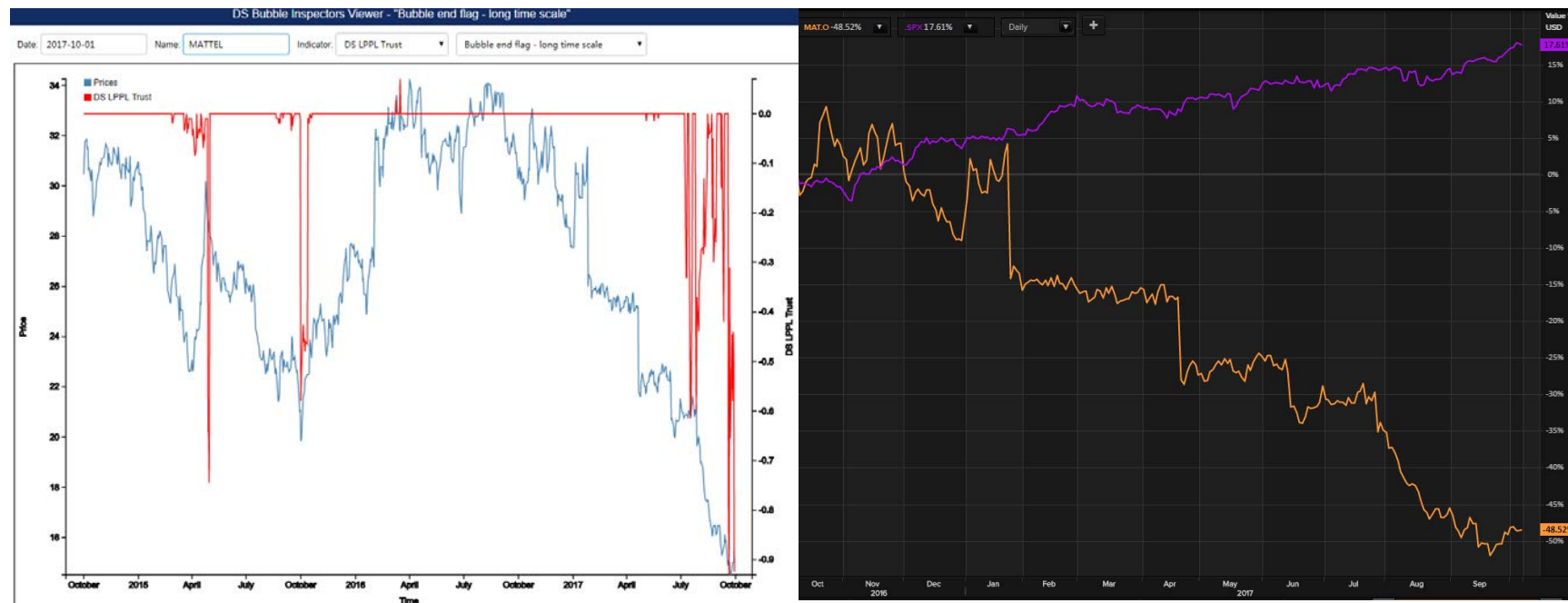
Left graph is a standard output from the Financial Crisis Observatory. It shows the historical price evolution of the stock in blue (left hand scale) and the calculated bubble warning index DS LPPL Trust in red (right hand scale). We can see a clearly spiking warning of the negative bubble. The right graph shows the performance of the stock over the last year (orange) with respect to the S&P 500 benchmark (purple), it is -65%. We expect a future rebound, which is due to our diagnostic of a negative bubble signal with strong fundamentals, calling for a contrarian buyer position.

Single Stocks - Quadrant 4 stocks

Last month example: strong negative bubble signals with strong fundamentals, Range Resources Corp.

Note that the stock started a small rebound in the past month, which is in synchrony with our DS LPPL trust indicator and the strong fundamentals. We expect this stock to appreciate in the future due to the strong fundamentals and following its neglect by investors in previous months.

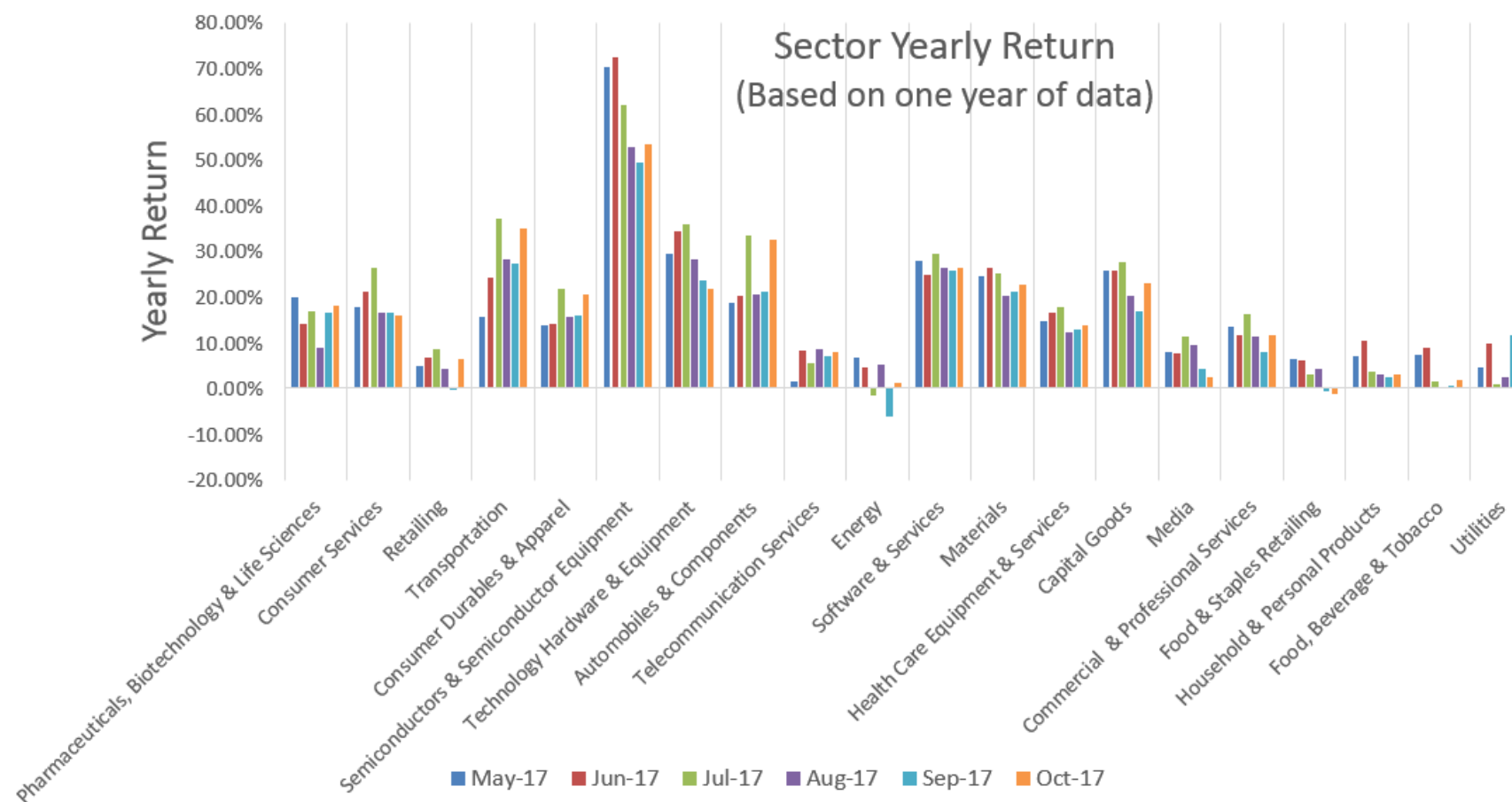Last month signal (1ˢᵗ Sep. 2017)   This month signal (1ˢᵗ Oct. 2017)
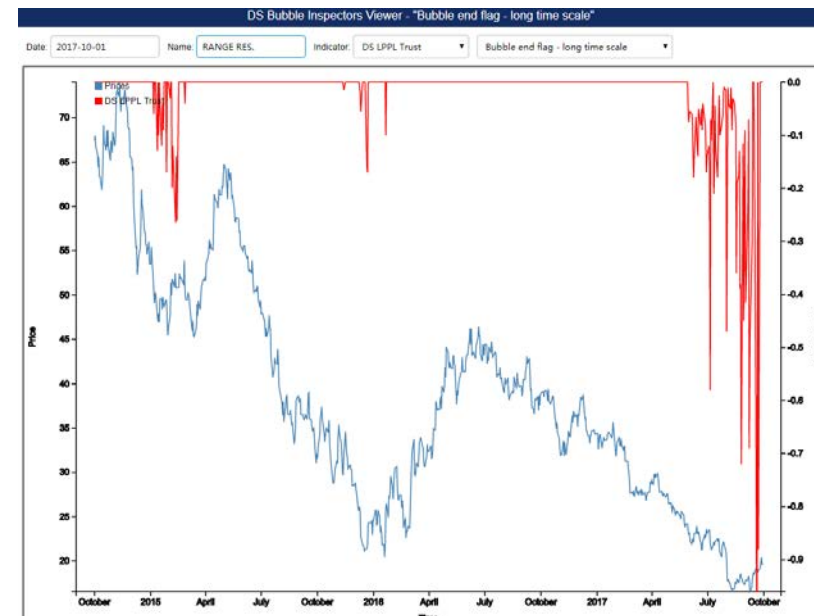
Sectors

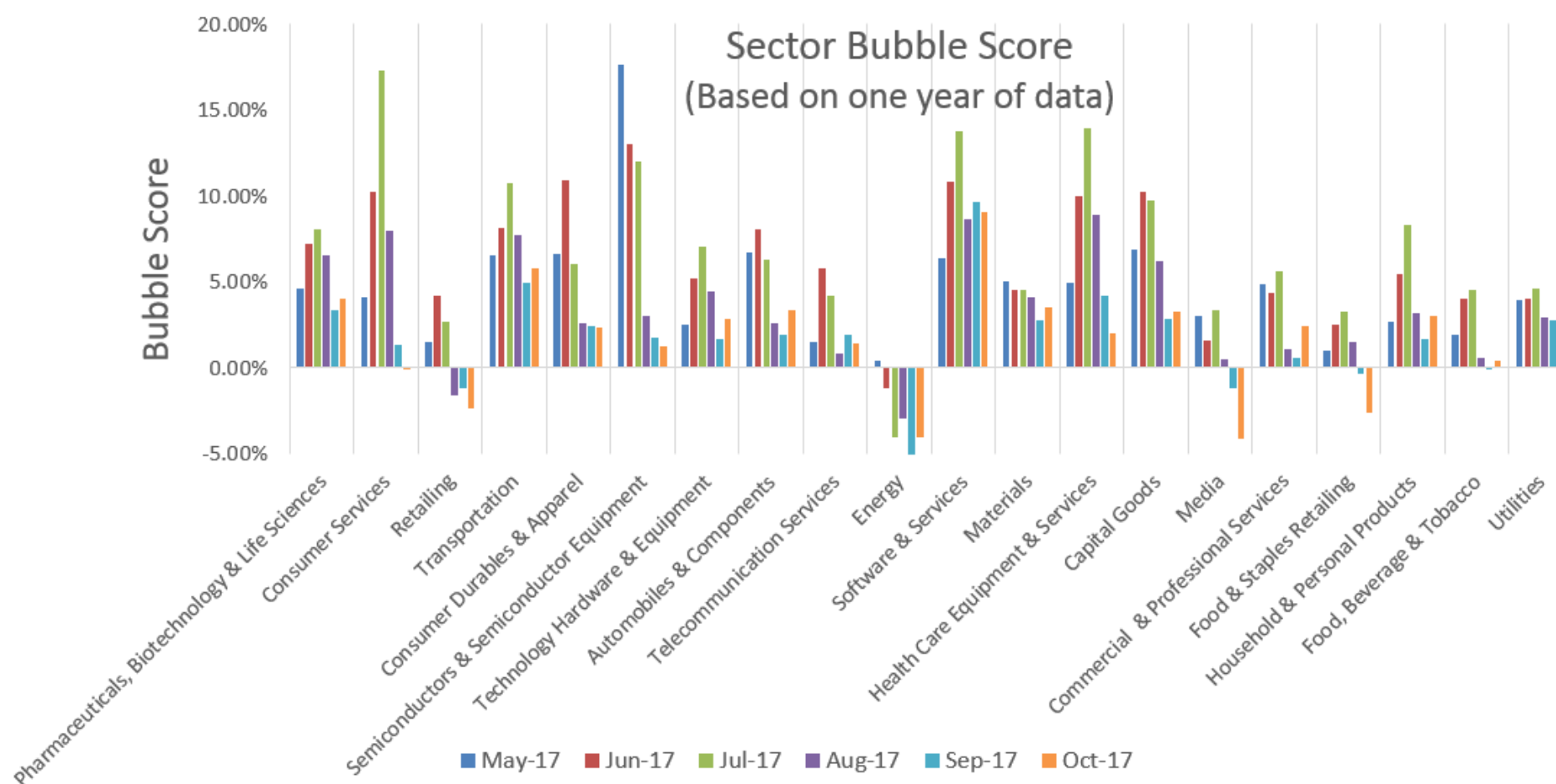| GICS Industry Group Name	Yearly Return		Bubble Score		Value Score		Growth Score	
	Oct 1st	Sep 1st	Oct 1st	Sep 1st	Oct 1st	Sep 1st	Oct 1st	Sep 1st
Pharmaceuticals, Biotechnology & Life Sciences	18.2%	16.6%	4.0%	3.3%	42.2%	42.1%	51.0%	51.2%
Consumer Services	15.9%	16.4%	-0.1%	1.3%	45.8%	45.1%	48.5%	47.2%
Retailing	6.5%	-0.2%	-2.4%	-1.2%	53.0%	55.4%	43.6%	43.1%
Transportation	35.1%	27.4%	5.8%	4.9%	53.8%	53.1%	39.9%	41.6%
Consumer Durables & Apparel	20.5%	16.0%	2.3%	2.4%	54.7%	53.6%	50.5%	52.2%
Semiconductors & Semiconductor Equipment	53.4%	49.4%	1.2%	1.7%	55.2%	58.4%	75.2%	76.9%
Technology Hardware & Equipment	21.7%	23.5%	2.8%	1.7%	62.5%	62.5%	49.1%	49.0%
Automobiles & Components	32.6%	21.2%	3.3%	1.9%	72.7%	74.4%	62.3%	62.7%
Telecommunication Services	7.9%	7.1%	1.4%	1.9%	53.3%	53.5%	38.4%	41.3%
Energy	1.2%	-6.3%	-4.1%	-5.9%	52.0%	55.2%	69.4%	67.4%
Software & Services	26.3%	25.8%	9.1%	9.7%	39.1%	39.7%	48.5%	47.9%
Materials	22.7%	21.1%	3.5%	2.7%	55.5%	54.4%	53.2%	53.0%
Health Care Equipment & Services	13.8%	12.9%	2.0%	4.2%	41.0%	39.7%	50.4%	50.4%
Capital Goods	23.0%	16.8%	3.2%	2.8%	44.1%	45.4%	52.4%	51.4%
Media	2.4%	4.2%	-4.1%	-1.2%	57.7%	55.9%	47.5%	48.5%
Commercial & Professional Services	11.5%	8.0%	2.4%	0.6%	41.4%	41.2%	40.1%	40.9%
Food & Staples Retailing	-1.4%	-0.5%	-2.7%	-0.4%	62.7%	58.5%	37.6%	38.3%
Household & Personal Products	3.1%	2.3%	3.0%	1.6%	33.3%	30.1%	47.4%	47.8%
Food, Beverage & Tobacco	1.7%	0.7%	0.4%	0.0%	40.7%	40.8%	47.6%	46.2%
Utilities	10.0%	11.7%	4.7%	2.8%	63.6%	60.7%	37.9%	38.6%

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 *Software & Services* we reported last month still has a significant positive bubble with low value score, calling for a contrarian buy position in this sector.

• The sector *Media* has a strong negative bubble this month due to recent drawdowns of media stocks. Investors are worrying about the performance of traditional media industry after the Disney gave a profit warning.
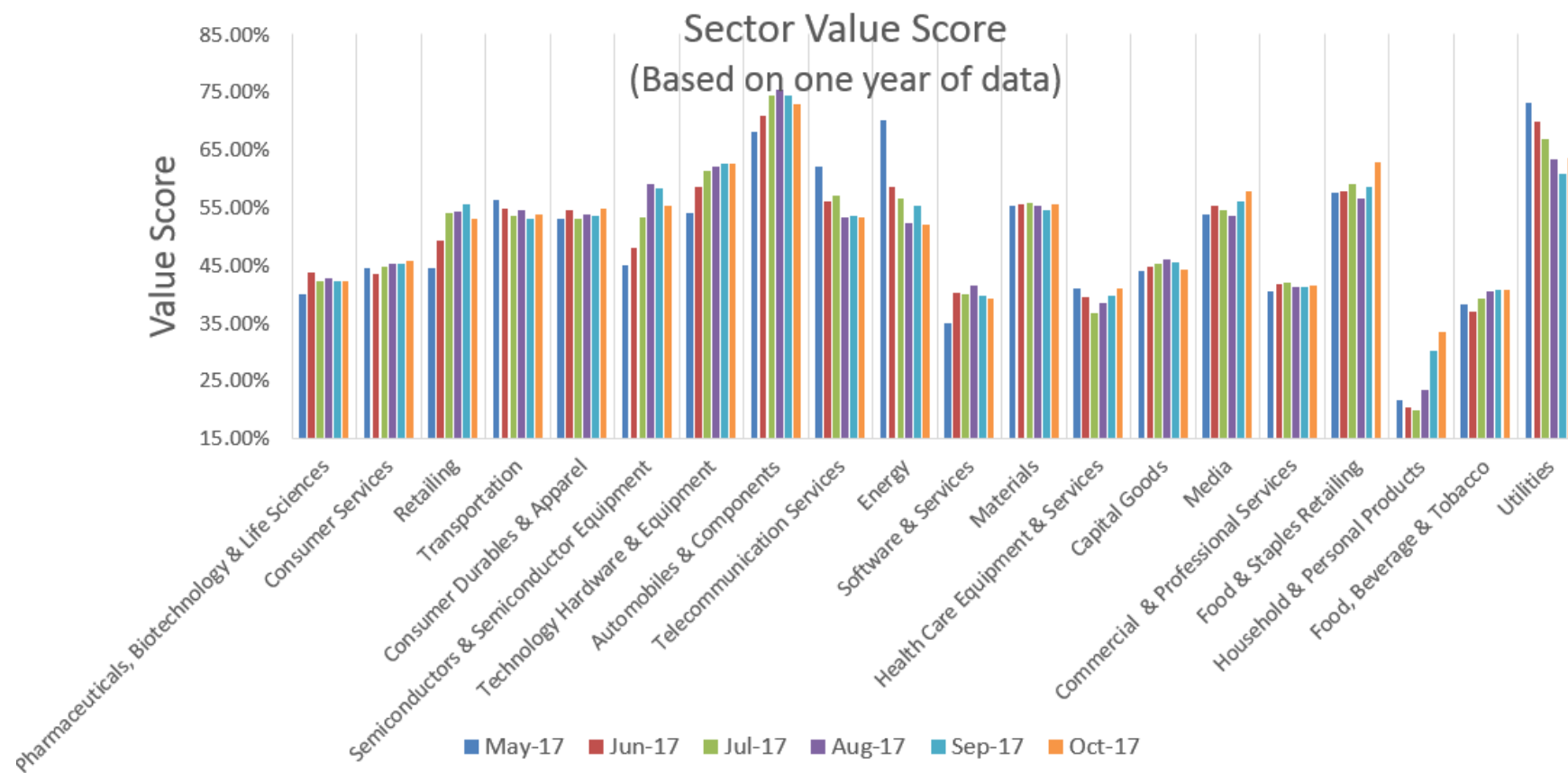
Sectors – Yearly Return

Sector Yearly Return
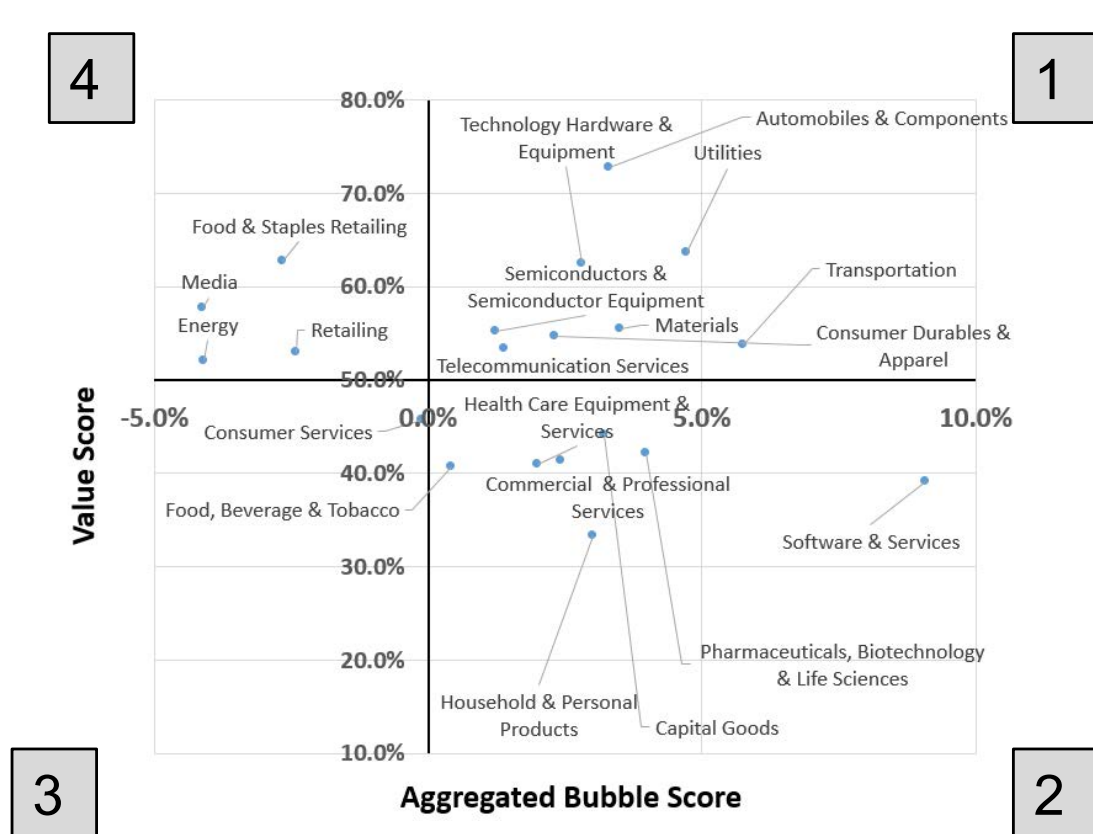(Based on one year of data)

May-17 ■ Jun-17 ■ Jul-17 ■ Aug-17 ■ Sep-17 ■ Oct-17

Sectors – Bubbles

Sector Bubble Score
(Based on one year of data)

Sectors – Value

Sector Value Score
(Based on one year of data)

Sectors – Growth

Sector Growth Score
(Based on one year of data)

Sectors

4

1

3

2

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.

Sectors
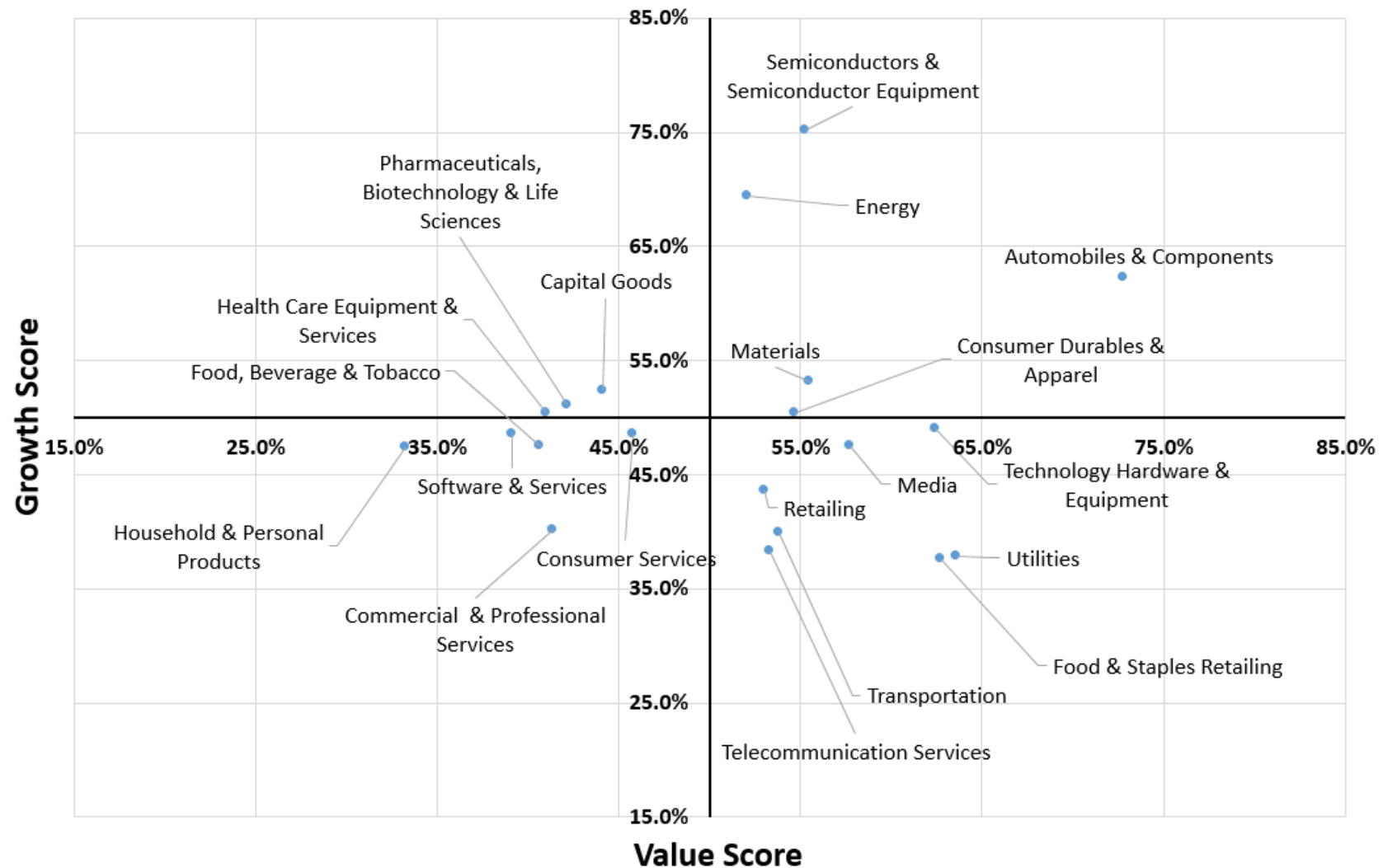
Sectors - Portfolio Construction and Performance

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 26 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) Contrarian Short Stock Portfolio (CSSP) is made of the stocks that have a weak bubble signal as well as a weak value score.

Sectors - Portfolio Construction and Performance

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 49 of the June 2017 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 June 2017 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.

Final Remarks
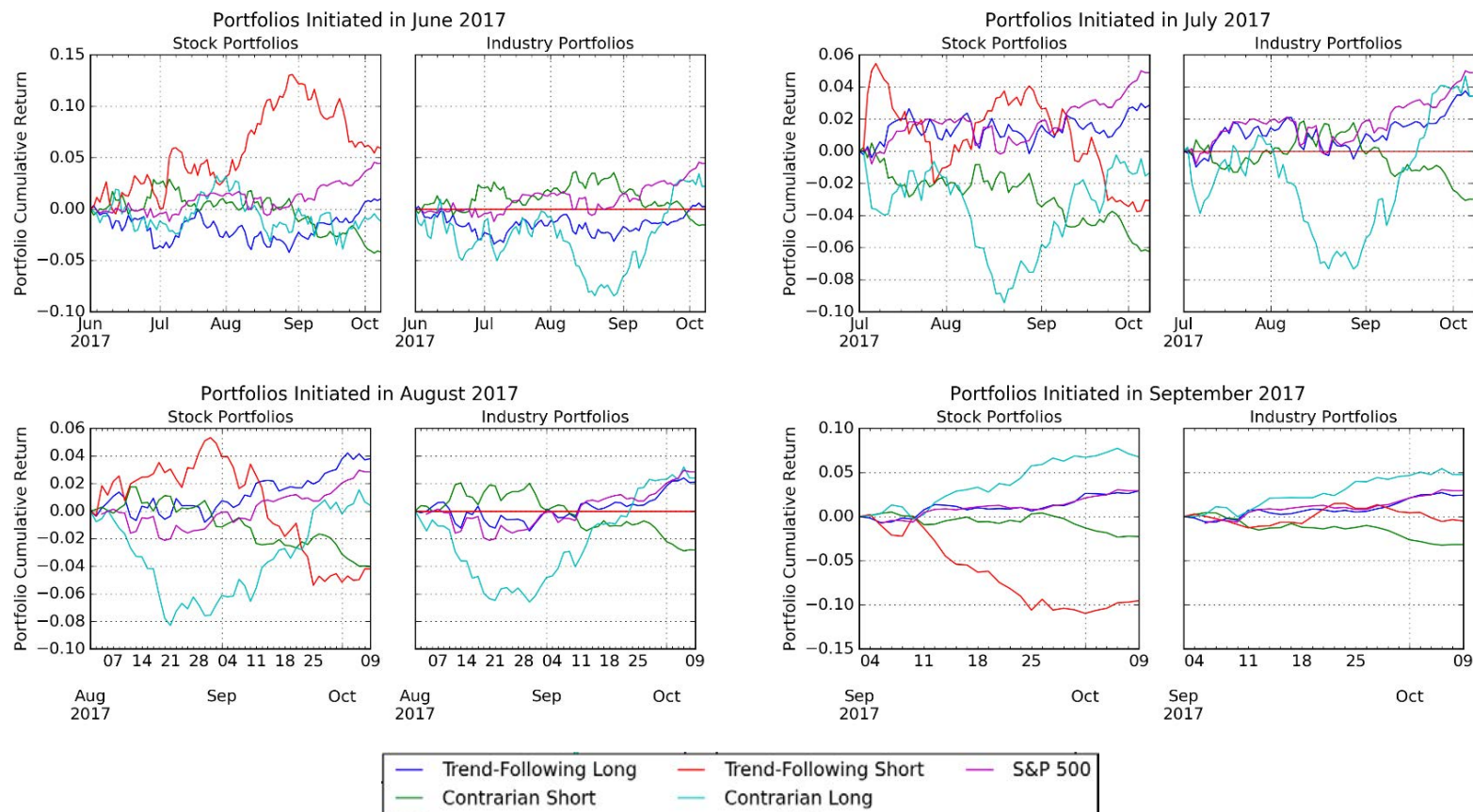
This month, we find that most Long portfolios initiated in June, July, August and September 2017 have good performances. This is mainly due to the continuing appreciation of the market. Contrarian Portfolios are more delicate to use due to their sensitivity to timing the expected reversal and exhibit very volatile performances, indicating that most of bubbles in the market are still dominating and that fundamentals have not yet played out. We expect trend-following positions to perform in the months following the position set-up and then contrarian positions to over-perform over longer time scales as the predicted corrections play out.

Visit the Financial Crisis Observatory for more information

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