The FCO Cockpit – Global Bubble Status Report

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Chair of Entrepreneurial Risk

February 1st, 2016

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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 433 systemic assets and 815 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.

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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general result

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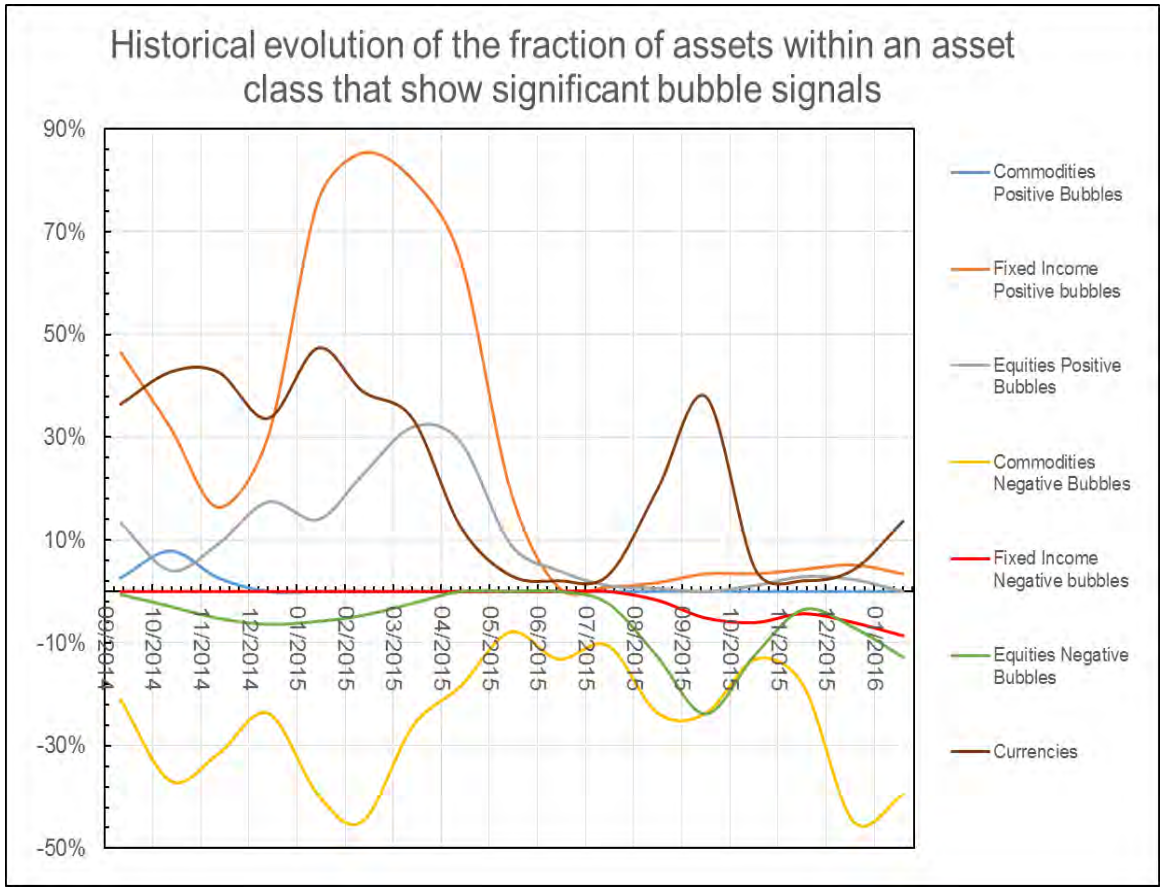

A positive bubble signal is an indication of herding when people start buying because prices go up.
A negative bubble signal is an indication of herding when people start selling because prices go down.

Main results

Markets are driven by a sell-off in commodities. Around 40% of our indices show negative bubble signals. The effect is seen across all commodities: energy, soft and metals. This is the result of herding. People sell the asset class because the price goes down. The result is a positive feedback mechanisms and mispricing.

The commodities sell-off has spill-over effects in other asset classes. This can be seen as strong negative bubble signals in:

- Corporate bonds mainly in mining, oil & gas, basic resources, industrial metals ...
- Country stock indices mainly in the United Arab Emirates, and other exporters like Canada, Brazil, ...
- Currencies of commodity exporting countries like South Africa, Norway, Canada, Russia ...

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results per asset class

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commodities

39% of the commodity indices that were analyzed show negative bubble signals.

The effect is seen across all commodities: energy, soft and metals. It is the result of herding. People sell the asset class because the price goes down. This results in a positive feedback mechanisms and mispricing.

This sell off has a strong impact on corporate bonds and currencies of exporting countries.

Commodities	Yearly Return	DS LPPL Trust	DS LPPL Confidence
Positive Bubbles			
None			
Negative Bubbles			
Heating Oil ER Index	-40%	35%	62%
Gasoil ER Index	-39%	32%	61%
Energy ER Index	-39%	30%	54%
Natural Gas ER Index	-40%	29%	15%
Brent Crude ER Index	-41%	25%	49%
Petroleum ER Index	-38%	24%	44%
Live Stock ER Index	-12%	22%	6%
Nickel ER Index	-43%	17%	21%
Crude Oil ER Index	-41%	16%	37%
Robsta Coffee ER Index	-33%	12%	36%
Metals ER Index	-18%	11%	7%
HG Copper ER Index	-17%	9%	16%
Platinum ER Index	-29%	9%	13%
Copper ER Index	-16%	8%	16%
Gasoline ER Index	-18%	5%	19%

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bond indices

The sell off in commodities has a clear spill-over effect in corporate bonds, mainly in mining, oil & gas, basic resources, industrial metals ...

We see that 9% of all bond indices that were analyzed show negative bubble warning signals.

Country Indices	Yearly Return	DS LPPL Trust	DS LPPL Confidence
Positive Bubbles			
iBoxx Asia China Government	5.9%	61.7%	84.1%
iBoxx Asia Taiwan Government	7.9%	35.0%	70.6%
Negative Bubbles			
None			
Sector Indices	**Yearly Return**	**DS LPPL Trust**	**DS LPPL Confidence**
Positive Bubbles			
None			
Negative Bubbles			
iBoxx USD Oil Equipment, Services & Distribution Index	-13.5%	40.3%	52.3%
iBoxx USD Basic Resources Index	-16.1%	37.7%	58.5%
iBoxx EUR Basic Resources Index	-17.2%	33.5%	61.7%
iBoxx USD Mining Index	-19.8%	33.0%	48.0%
iBoxx USD Basic Materials Index	-11.6%	31.8%	59.2%
iBoxx USD Industrial Metals Index	-12.2%	19.0%	33.9%
iBoxx USD Oil & Gas Index	-9.8%	14.0%	45.7%
iBoxx USD Gas, Water & Multiutilities Index	-6.9%	8.1%	22.7%
iBoxx USD Oil & Gas Producers	-8.5%	6.8%	31.2%

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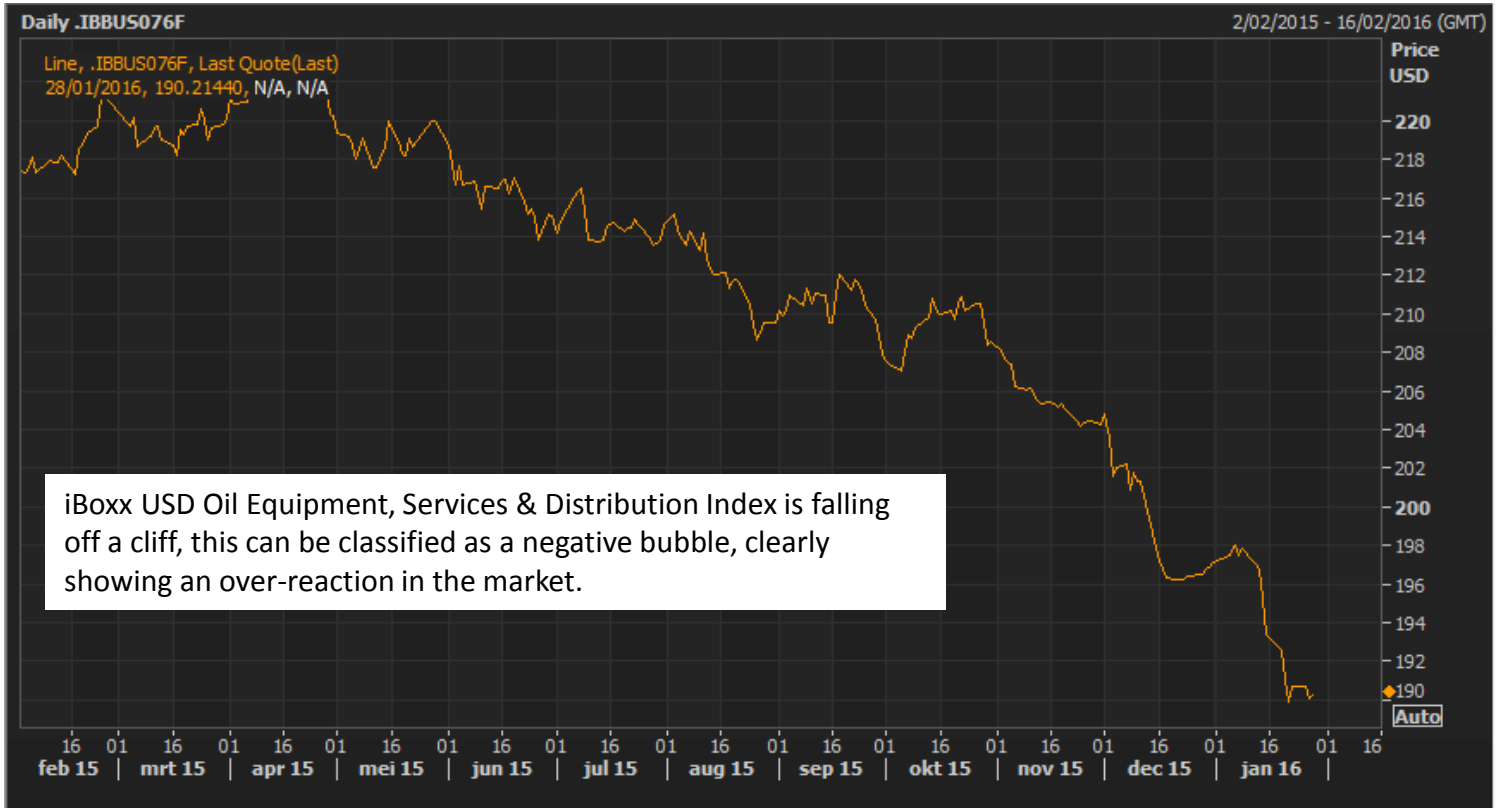
bond indices



iBoxx USD Oil Equipment, Services & Distribution Index is falling off a cliff, this can be classified as a negative bubble, clearly showing an over-reaction in the market.

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currencies

The sell off in commodities has a spill-over effect in currencies of commodities exporting countries.

We see that 14% of all the currency pairs that were analyzed show bubble warning signals.

Additionally, what is striking is the bubble signal on the GBP/USD exchange rate.

FX	Yearly Return	DS LPPL Trust	DS LPPL Confidence
US Dollar/South African Rand	39%	37%	53%
US Dollar/Norwegian Krone	11%	15%	20%
US Dollar/UK Pound Sterling	5%	14%	34%
US Dollar/Chinese Renminbi	5%	11%	38%
Swiss Franc/South African Rand	21%	11%	38%
Euro/South African Rand	26%	11%	42%
US Dollar/Argentine Peso	60%	10%	34%
US Dollar/Canadian Dollar	12%	10%	36%
US Dollar/Russian Rouble	11%	9%	25%
Euro/Argentine Peso	35%	7%	35%
Swiss Franc/Argentine Peso	31%	6%	25%

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currencies

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stock indices

The sell off in commodities has a spill-over effect in the stock indices of commodities exporting countries like United Arab Emirates, Canada, Brazil ...

The strong negative effect on stocks in commodities related sectors can also clearly be observed.

The clear negative bubble signal in European banks is striking.

Equities Country Indices	Yearly Return	DS LPPL Trust	DS LPPL Confidence
Positive Bubbles			
None			
Negative Bubbles			
Colombia SE General Index	-20.0%	24.1%	20.2%
Warsaw SE WIG Poland Index	-15.8%	19.8%	46.7%
Dubai Financial Market General	-22.2%	18.2%	37.3%
Qatar Exchange General Index	-22.1%	13.7%	35.7%
Muscat SE General Index	-23.5%	10.8%	31.3%
TSX-Toronto Stock Exchange 300 Composite Index	-14.0%	9.2%	34.9%
Sao Paulo SE Bovespa Index	-19.1%	8.5%	28.8%
SET Index	-18.0%	8.0%	28.0%
Kuwait Main Index	-23.8%	7.0%	30.8%
Abu Dhabi index	-12.3%	5.3%	19.9%
IBEX 35 Index	-17.2%	5.2%	19.0%
Equities Sector Indices	**Yearly Return**	**DS LPPL Trust**	**DS LPPL Confidence**
Positive Bubbles			
None			
Negative Bubbles			
S&P 500 Indp Pwr Prdcr&EngTrdrs	-42.1%	32.6%	5.7%
S&P 500 Containers & Packaging	-19.9%	13.0%	35.6%
STOXX Europe 600 Basic Resources	-43.9%	12.8%	38.0%
S&P 500 Paper& Forest Products	-31.2%	9.2%	9.6%
STOXX Europe 600 Banks	-19.0%	8.1%	27.7%
S&P 500 Road & Rail	-37.9%	7.0%	31.2%
S&P 500 Consumer Finance	-25.9%	6.7%	37.6%

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stock indices

European banks (orange) compared to European stocks (purple). There is a negative bubble signals in banks. The correction since the peak in April last year has been massive.

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single stocks

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What is this?

For 815 stocks we calculate the bubble warning indicators as well as two newly-developed financial strength indicators.

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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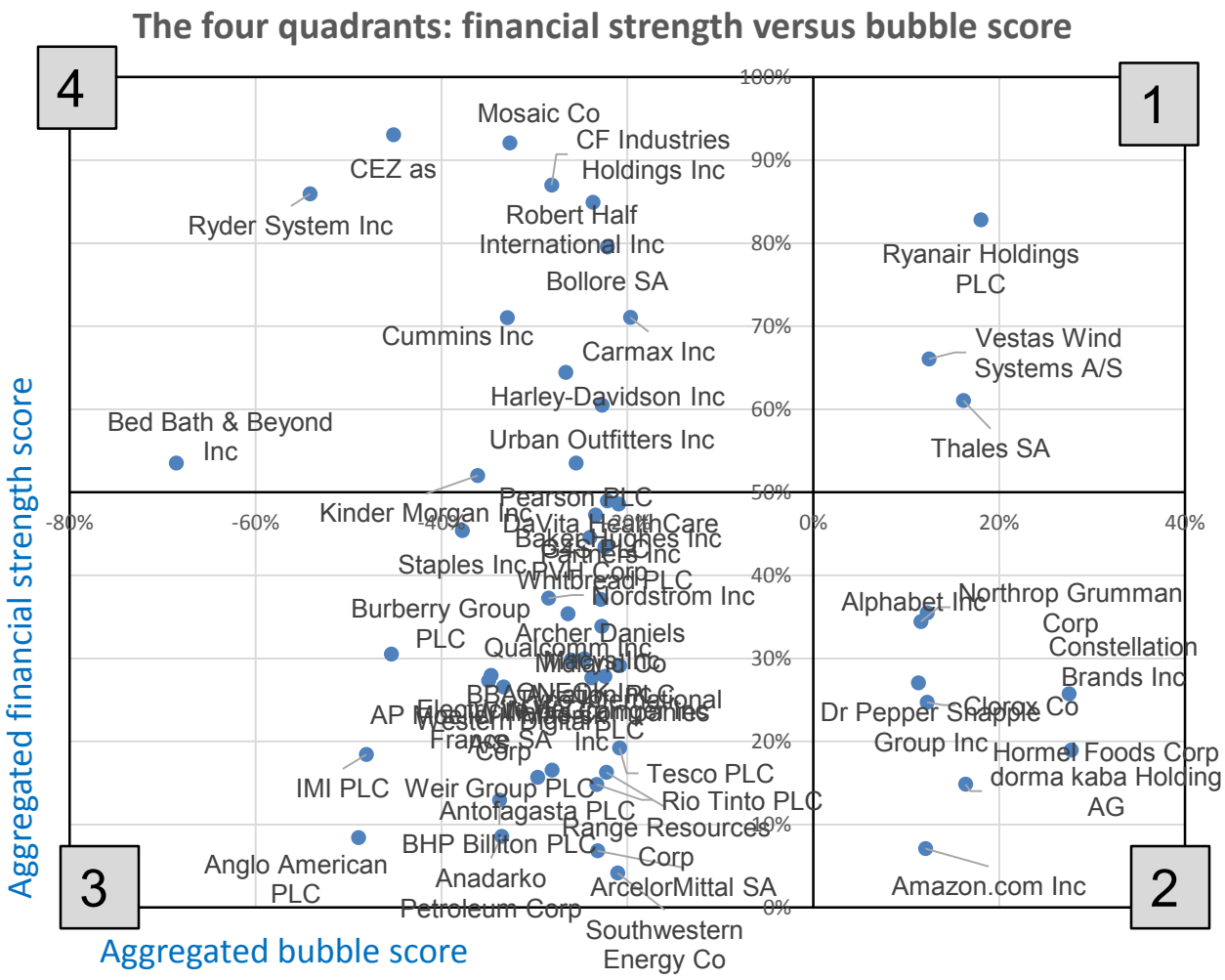

By aggregating the bubble scores and the financial strength scores, we can divide the stocks into four quadrants:

1. Quadrant 1: Stocks with a strong positive bubble score and a strong financial strength (e.g. Ryanair);
2. Quadrant 2: Stocks with a strong positive bubble score and a weak financial strength (e.g. Amazon);
3. Quadrant 3: Stocks with a strong negative bubble score and a weak financial strength (e.g. Anglo American);
4. Quadrant 4: Stocks with strong negative bubble score and a strong financial strength (e.g. Ryder Systems).

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Each quadrant has its own specs:

1. Quadrant 1: These stocks have a strong financial strength. As the financial strength scores are normalized for Enterprise Value, they can still be considered as relatively cheap. 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: These stocks have a weak financial strength. They can be considered as very expensive relative to their financial performance. 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 have a weak financial strength. They can be considered as very expensive relative to their financial performance. 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 have a strong financial strength. They can be considered as very 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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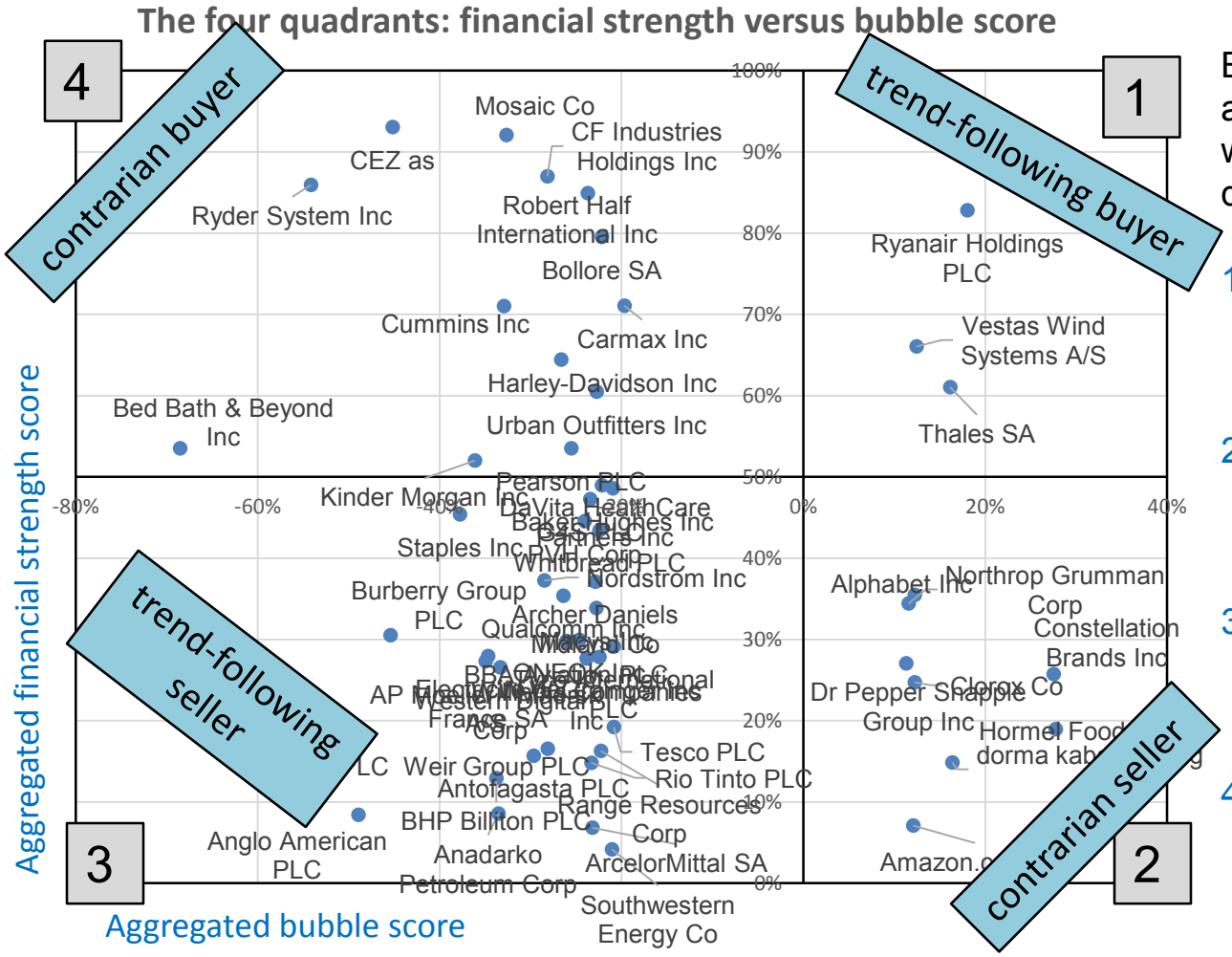

By aggregating the bubble scores and the financial strength scores, we can divide the stocks into four quadrants:

1. Quadrant 1: Stocks with a strong positive bubble score and a strong financial strength (e.g. Ryanair);
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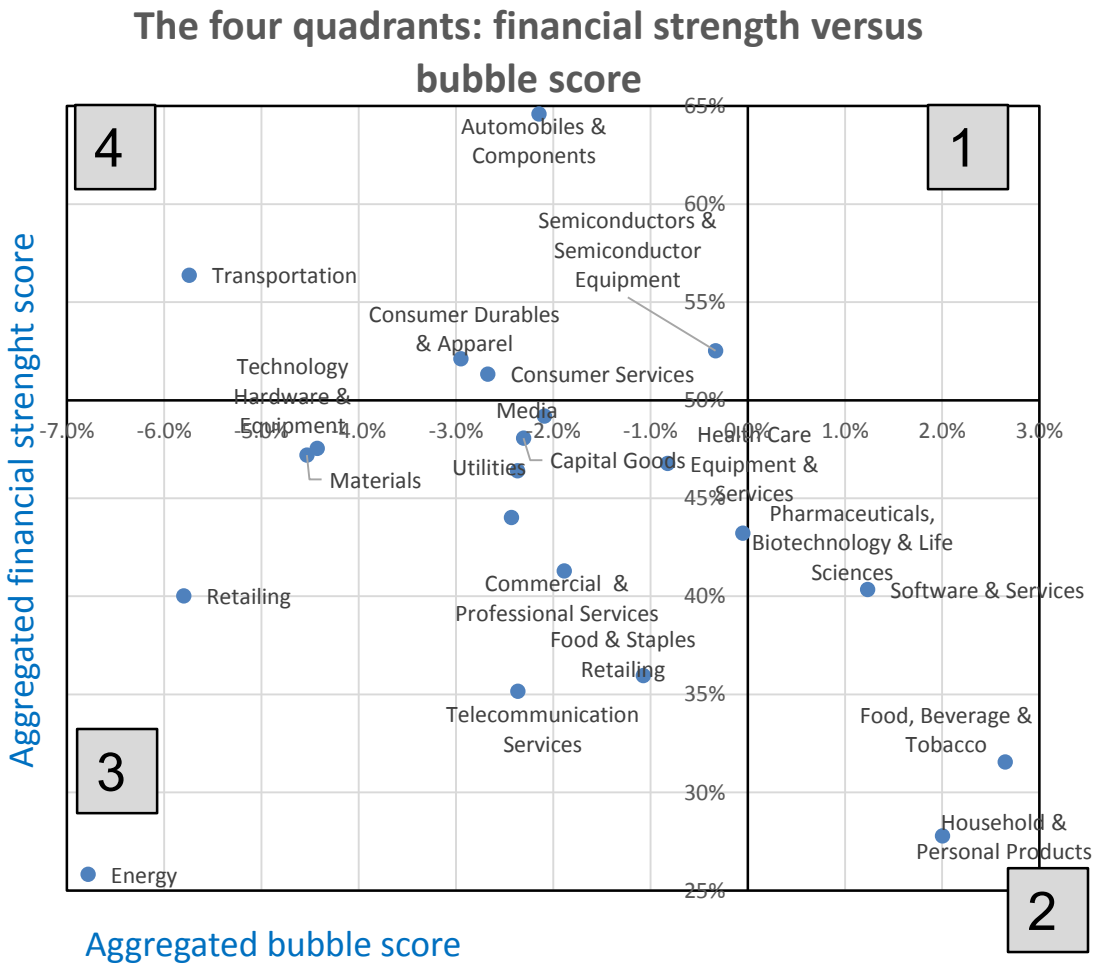

By aggregating the data, the four quadrants can also be constructed for sectors:

1. Quadrant 1: Sectors with an average positive bubble score and a strong financial strength;
2. Quadrant 2: Sectors with an average positive bubble score and a weak financial strength;
3. Quadrant 3: Sectors with an average negative bubble score and a weak financial strength;
4. Quadrant 4: Sectors with an average negative bubble score and a strong financial strength.

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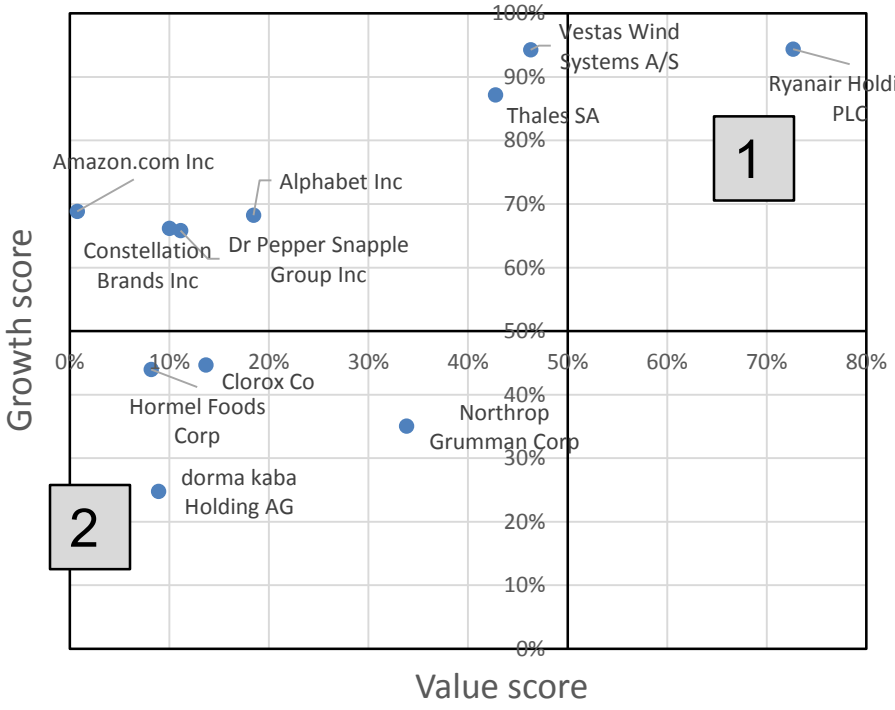
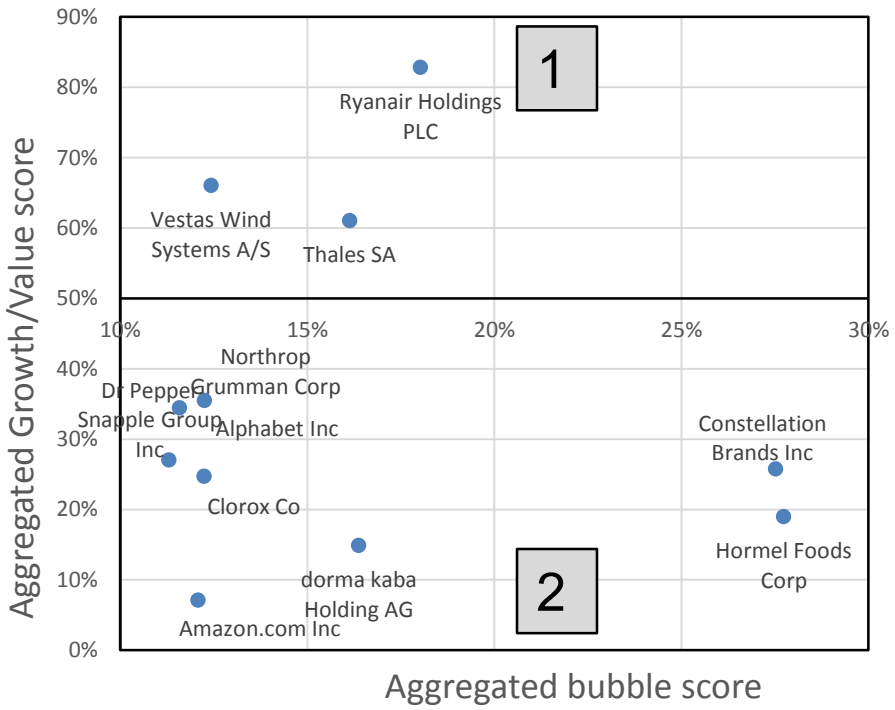
Quadrant 1 and 2 stocks: positive bubble signals with strong respectively weak fundamentals





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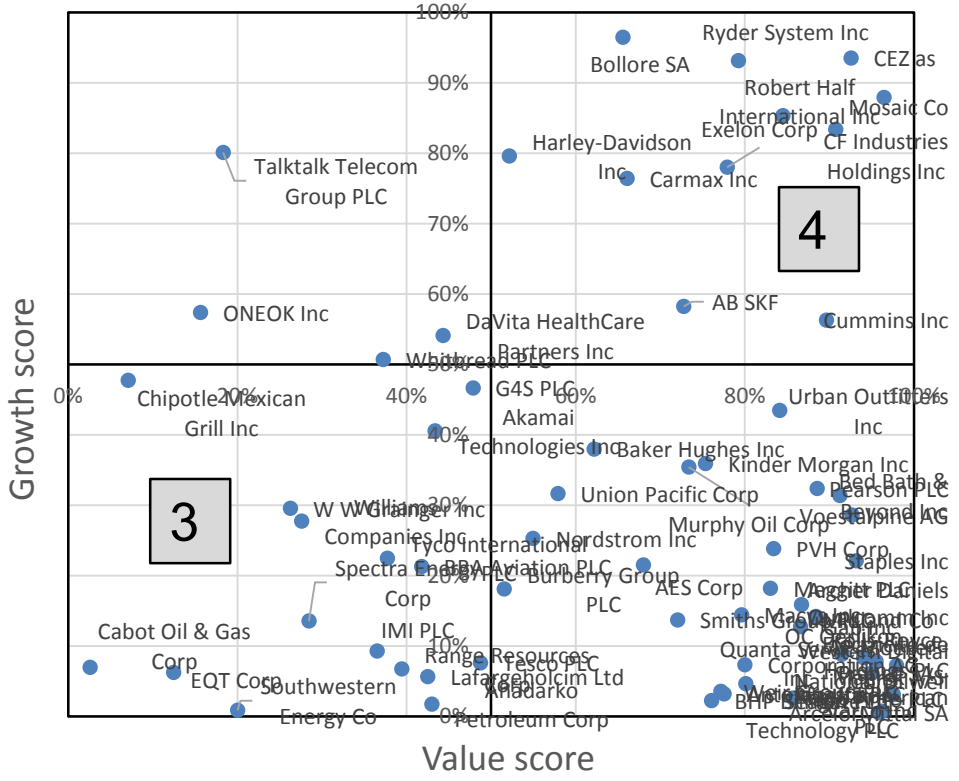
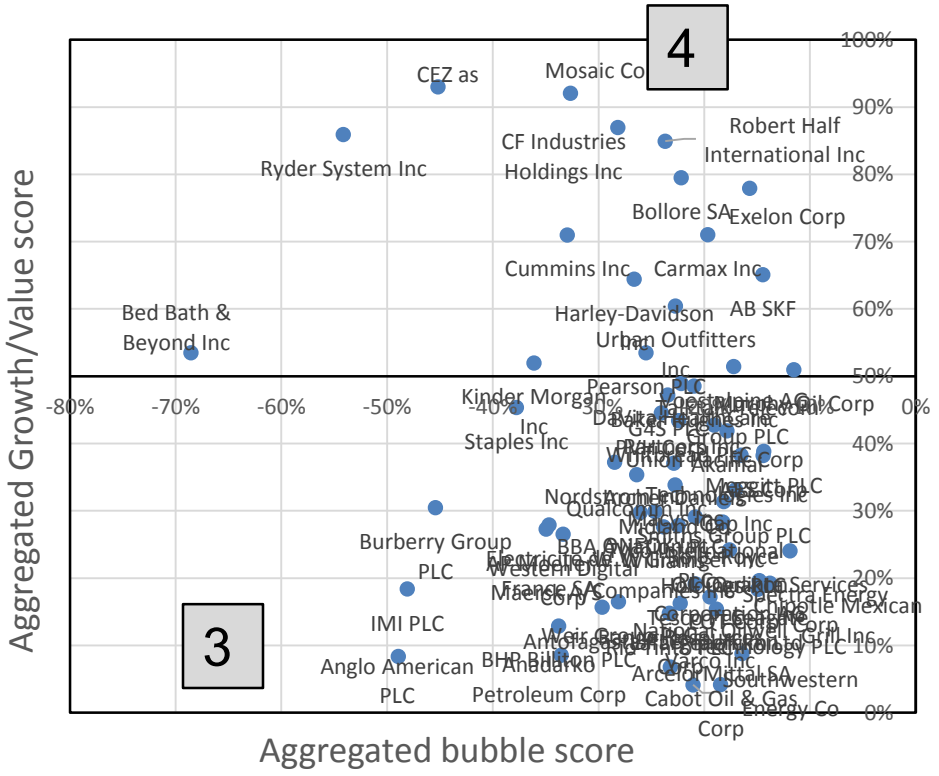
Quadrant 3 and 4 stocks: negative bubble signals with strong respectively weak fundamentals





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Quadrant 1 stocks: strong positive bubble signals with strong fundamentals

Quadrant 1	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	DS LPPL Trust	DS LPPL Confidence	Bubble all	Value score	Growth score	Financial strength Score
Ryanair Holdings PLC	Ireland	Industrials	Transportation	34.2%	14.0%	23.2%	18%	73%	94%	83%
Thales SA	France	Industrials	Capital Goods	45.0%	21.5%	12.1%	16%	43%	87%	61%
Vestas Wind Systems A/S	Denmark	Industrials	Capital Goods	74.7%	14.3%	10.8%	12%	46%	94%	66%

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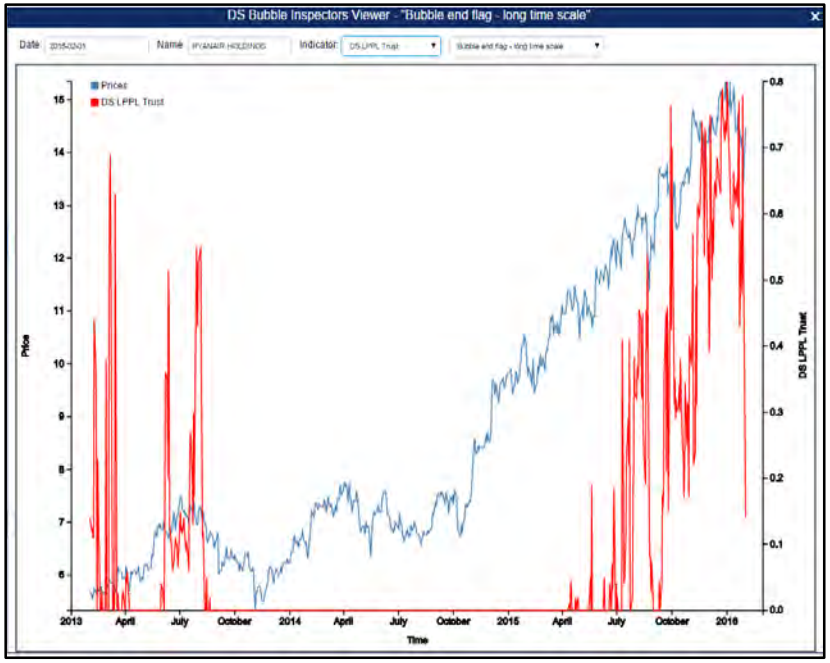
Quadrant 1 stocks: strong positive bubble signals with strong fundamentals, example Ryanair.



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 five years (orange) with respect to the Eurostoxx benchmark (purple).

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Quadrant 2 stocks: strong positive bubble signals with weak fundamentals

Quadrant 2	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	DS LPPL Trust	DS LPPL Confidence	Bubble all	Value score	Growth score	Financial strength Score
Hormel Foods Corp	USA	Consumer Staples	Food, Beverage & Tobacco	49.1%	34.8%	22.1%	28%	8%	44%	19%
Constellation Brands Inc	USA	Consumer Staples	Food, Beverage & Tobacco	35.8%	25.5%	29.7%	28%	10%	66%	26%
dorma kaba Holding AG	Switzerland	Industrials	Commercial & Professional Services	45.8%	15.5%	17.3%	16%	9%	25%	15%
Alphabet Inc	USA	Information Technology	Software & Services	43.5%	12.6%	11.9%	12%	18%	68%	35%
Clorox Co	USA	Consumer Staples	Household & Personal Products	16.0%	11.7%	12.8%	12%	14%	45%	25%
Amazon.com Inc	USA	Consumer Discretionary	Retailing	103.8%	14.3%	10.2%	12%	1%	69%	7%
Northrop Grumman Corp	USA	Industrials	Capital Goods	14.1%	12.3%	10.9%	12%	34%	35%	34%
Dr Pepper Snapple Group Inc	USA	Consumer Staples	Food, Beverage & Tobacco	16.4%	11.3%	11.3%	11%	11%	66%	27%

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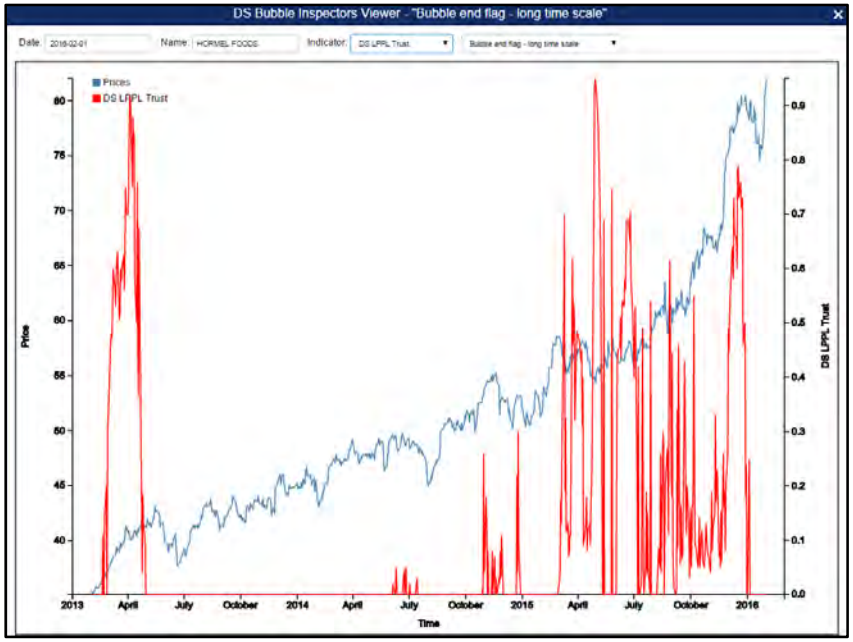
Quadrant 2 stocks: strong positive bubble signals with weak fundamentals, example Hormel foods.



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Quadrant 3 stocks: strong negative bubble signals with weak fundamentals

Quadrant 3	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	DS LPPL Trust	DS LPPL Confidence	Bubble all	Value score	Growth score	Financial strength Score
Anglo American PLC	UK	Materials	Materials	-75.6%	55.8%	42.9%	-49%	96%	1%	8%
IMI PLC	UK	Industrials	Capital Goods	-37.6%	36.9%	62.7%	-48%	37%	9%	18%
BHP Billiton PLC	UK	Materials	Materials	-49.4%	30.9%	36.9%	-34%	76%	2%	13%
Anadarko Petroleum Corp	USA	Energy	Energy	-53.5%	19.1%	58.9%	-34%	43%	2%	9%
Antofagasta PLC	UK	Materials	Materials	-43.4%	20.4%	43.1%	-30%	78%	3%	16%
Weir Group PLC	UK	Industrials	Capital Goods	-47.3%	19.0%	41.6%	-28%	77%	4%	17%
Rio Tinto PLC	UK	Materials	Materials	-41.9%	15.3%	35.5%	-23%	86%	3%	15%
ArcelorMittal SA	Luxembourg	Materials	Materials	-58.2%	34.5%	15.6%	-23%	96%	0%	7%
Range Resources Corp	USA	Energy	Energy	-38.8%	23.4%	21.2%	-22%	39%	7%	16%
Southwestern Energy Co	USA	Energy	Energy	-64.8%	35.5%	12.5%	-21%	20%	1%	4%
Tesco PLC	UK	Consumer Staples	Food & Staples Retailing	-26.6%	15.1%	28.8%	-21%	49%	8%	19%
National Oilwell Varco Inc	USA	Energy	Energy	-41.7%	12.4%	30.5%	-19%	98%	3%	17%
Lafargeholcim Ltd	Switzerland	Materials	Materials	-29.3%	12.2%	29.1%	-19%	42%	6%	15%
Cabot Oil & Gas Corp	USA	Energy	Energy	-27.1%	22.1%	15.4%	-18%	3%	7%	4%
EQT Corp	USA	Energy	Energy	-18.7%	23.3%	11.6%	-16%	12%	6%	9%
Chipotle Mexican Grill Inc	USA	Consumer Discretionary	Consumer Services	-36.6%	16.5%	13.5%	-15%	7%	48%	18%
Spectra Energy Corp	USA	Energy	Energy	-18.8%	14.2%	15.4%	-15%	28%	14%	20%
Seagate Technology PLC	Ireland	Information Technology	Technology Hardware & Equipment	-54.4%	17.3%	11.0%	-14%	80%	5%	19%

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Quadrant 3 stocks: strong negative bubble signals with weak fundamentals, example Anglo American.

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 performance of the stock over the last five years (orange).

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Quadrant 4 stocks: strong negative bubble signals with strong fundamentals

Quadrant 4	Country of Headquarters	GICS Sector Name	GICS Industry Group Name	Yearly Return	DS LPPL Trust	DS LPPL Confidence	Bubble all	Value score	Growth score	Financial strength Score
Ryder System Inc	USA	Industrials	Transportation	-41.0%	48.2%	60.8%	-54%	79%	93%	86%
CEZ as	Czech Republic	Utilities	Utilities	-28.8%	34.7%	58.8%	-45%	93%	94%	93%
Cummins Inc	USA	Industrials	Capital Goods	-39.1%	45.4%	23.9%	-33%	90%	56%	71%
Mosaic Co	USA	Materials	Materials	-52.3%	25.5%	41.8%	-33%	96%	88%	92%
CF Industries Holdings Inc	USA	Materials	Materials	-50.6%	18.7%	42.4%	-28%	91%	83%	87%
Harley-Davidson Inc	USA	Consumer Discretionary	Automobiles & Components	-39.8%	17.6%	40.3%	-27%	52%	80%	64%
Robert Half International Inc	USA	Industrials	Commercial & Professional Services	-27.0%	13.7%	41.0%	-24%	84%	85%	85%
Urban Outfitters Inc	USA	Consumer Discretionary	Retailing	-38.1%	25.2%	20.5%	-23%	84%	43%	60%
Bollore SA	France	Industrials	Transportation	-3.7%	13.8%	35.6%	-22%	66%	96%	80%
Carmax Inc	USA	Consumer Discretionary	Retailing	-32.2%	11.1%	34.9%	-20%	66%	76%	71%
Exelon Corp	USA	Utilities	Utilities	-22.5%	22.0%	11.2%	-16%	78%	78%	78%
AB SKF	Sweden	Industrials	Capital Goods	-33.2%	10.9%	19.2%	-14%	73%	58%	65%

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Quadrant 4 stocks: strong negative bubble signals with strong fundamentals, example Ryder System.

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 five years (orange) with respect to the Eurostoxx benchmark (purple).

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thank you