



The FCO Cockpit Global Bubble Status Report August 2021



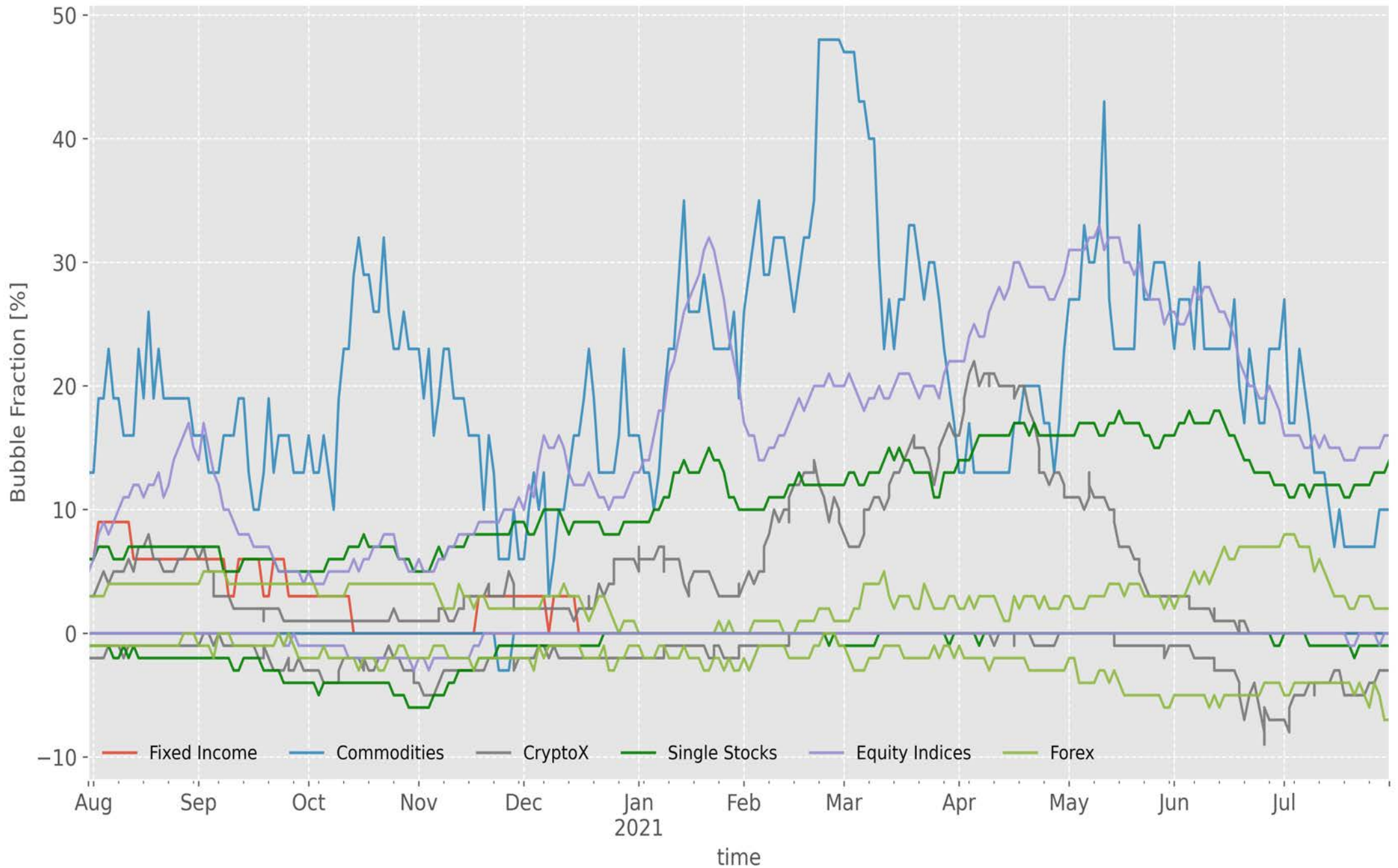
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Purpose and Benefits

- ▶ The **Financial Crisis Observatory (FCO)** monthly report discusses the historical evolution of bubbles in and between different asset classes and geographies. The purpose of the FCO report is to ascertain which asset classes and sectors are **crowded** and to what degree they develop contagion risks.
- ▶ Today, the report is **used by 600+ institutions world-wide**, including universities, think tanks, sovereign wealth funds, hedge funds, family offices, private banks and pension funds.
- ▶ It delivers the big picture in terms of growing bubbles and instabilities in today's financial markets for **Chief Investment Officers, Senior Researchers, Fund Managers**, and **Independent Financial Advisors**, and all parties with **investment performance responsibility** or **managing financial risks**.
- ▶ The report is the result of an extensive analysis applied to the historical time series of about 450 systemic assets and about 850 single stocks. The systemic assets are bond, equity and commodity indices, as well as a selection of currency pairs. The single stocks are mainly US and European equities. The data is from Thomson Reuters.
- ▶ To new readers, we recommend proceeding to the appendix for more detailed information about the methodology and procedures applied in this report.

Fraction of Positive / Negative Bubble Signals for different Asset Classes



General Results as of 2021-07-30

	Region	Analyzed Assets	Fraction of Pos. Bubbles [%]	Fraction of Neg. Bubbles [%]
Fixed Income		33	0	0
Commodities		30	10	0
Single Stocks		1614	14	1
	Europe	943	14	1
	United States	658	14	1
Equity Indices		887	16	0
	Europe	57	12	0
	United States	377	18	0
	Global	383	16	0
Forex		99	2	7
CryptoX		487	0	3

- ▶ This month, no bubble signals are detected in the fixed income sector as in the previous months.
- ▶ In the commodities sector, while negative bubbles remain zero for this month, the positive bubble fraction continues its downtrend from 23% to 10%. This may indicate that commodities boom starting mid-2020 starts to cool down in the recent two months as a result of the recovery of the supply side worldwide and hence of the narrowed supply-demand imbalance.
- ▶ In both the single stocks and equity indices sectors, the positive bubble fraction generally remains unchanged at 14% and 16% in this month, respectively.
- ▶ In the Forex sector, the positive bubble fraction has fallen from 7% to 2% during this month, while the negative bubble fraction has increased from 4% to 7%.
- ▶ In the CryptoX sector, no positive bubbles are detected as in the last month, yet the negative bubble activity has experienced a mild decrease from 7% to 3%.

China's Heavy State Interventions

The Chinese government has done something recently that Donald Trump has dreamed of but never fulfilled. i.e., crackdown on the overseas Chinese ADR stocks. The Chinese tutoring and technology sectors in the U.S. market have been plummeting for more than 1 trillion U.S. dollar under the harsh government regulations motivated by three national targets:

- **National security:** protecting data privacy and maintaining greater self-reliance in technology
- **Common prosperity:** curbing inequalities that stretches the workers while nourishing the rich
- **Social Stability:** burdens that lead to social discontent of China's middle class

The losers clearly will be tech billionaires, over-leveraged property tycoons, and capitals that benefit from the medical sector, tutoring services, etc. Accordingly, the regulation changes will result in the re-valuation (discount) of the Chinese ADR, and of Hong Kong stock prices, reflecting new risk premia associated with policy uncertainties. We reckon that many financial institutions will limit their investments in Chinese ADR since lots of fund managers find it hard to guess which sector will be the next target (online video game of Tencent?). One thing we know is that if Archegos had not crashed a few months ago, it would still be terminated during last month developments, as Archegos's significant exposures were Chinese education and tech stocks.

Alpha, Beta, Delta, Gamma, and Lambda...

The corona viruses are constantly changing through mutations as well as recombinations, which results in new variants. Scientists have used many Greek alphabet to name them. Currently, the majority of countries are fighting against the highly transmissible Delta variant, which also infects fully vaccinated people, who can then also spread the virus to others after catching the virus. The current vaccines were designed for earlier versions of coronaviruses, which means they may not be the ideal match for new variants and so might not work so well. Experts say they are still very effective for current variants by cutting the risk of severe form of the flu. However, there still exists a high chance that a new totally "different" variant of SARS-CoV-2 that no vaccinations can prevent or cure will come into being.

Fix income: Even Jerome Powell is somewhat confused that the 10-year treasury yields' compression for the past few weeks and thus said "there's no consensus explanations for low yields". We reckon that the compression is mainly caused by: 1). the fear caused by Delta SARS-CoV-2 as fully vaccinated people can still get and spread the virus, and the surprising growth of the number of infected people in the past few weeks; 2). The breakout of Delta SARS-CoV-2 in well-protected China and some other economies with potential large-scale lockdown; 3). The future economic recovery is less than previously expected due to the Delta variant; 4). The U.S. debt ceiling is approaching; 4) the lack of high-quality collaterals (government bond), as Fed's asset-purchasing distorts the bond market. Hopefully, Biden's fiscal stimulus can increase the yield, steepening the yield curve. We think the possibility of U.S. stagnation risk is increasing (we need more economic and employment data later this year to confirm it), as a possible consequence of the combination of the weak recovery and "enduring" inflation.

Global equities: In line with our July expectation, Q4 is a bifurcation point for the U.S. equity market, since: 1). The tapering might go through a critical change of decision as in Q4, when 70%+ of the population will be fully vaccinated; 2). The U.S. debt ceiling will be reached by the end of this year. As we have mentioned in many previous monthly reports, the current stock market has a considerable instability, and the liquidities from the central banks mainly drive up the indexes. Thus, a slight change in the central banks' attitude about tapering might lead to harsh price corrections. Investors are suggested to pay more attention to the employment data, which central bankers have a close eye on.

Commodities: Brazil and U.S. will have less soybean and corn production this year due to the drought and other extreme weather events. The central area of China, the major wheat production province, has been suffering from severe floods (like Germany). The climate risk might pose significant greater threats than people used to think. In addition, Chile's Escondida copper mine, the largest copper mine (5% of global copper supply), is suffering from a strike. The copper price in the near future will depend on whether the strike will last more than two weeks or not. Besides, coal prices have risen almost 40% (above its decade high) since the beginning of May because warmer weather boosted demand in Asia and North America, and production declined in some countries due to flooding. However, we notice an alarm signal in coal price, suggesting an approaching correction. The Chinese government is curbing coal and steel production based on its de-carbonization policy, putting downward pressure on hard commodities. Thus, most commodity prices will experience more price volatilities for the next few months.

Real estate: there has been a substantial prevalence of rent price increase across all states of America since the beginning of 2021. We reckon that the rent increase is mainly because more people are not considering buying (or not able to buy) houses with sky high prices, as pandemic and low-interest rate drive demand for more rooms and houses.



Source: NASDAQ Golden Dragon China Index via Bloomberg

Fixed Income

No bubbles to report

Commodities

MLcx Unseasonal Nat. Gas Spot Index

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Super Short	46.9	57.97	216.51	100	92.53	97.94	2021-08-07	97.67



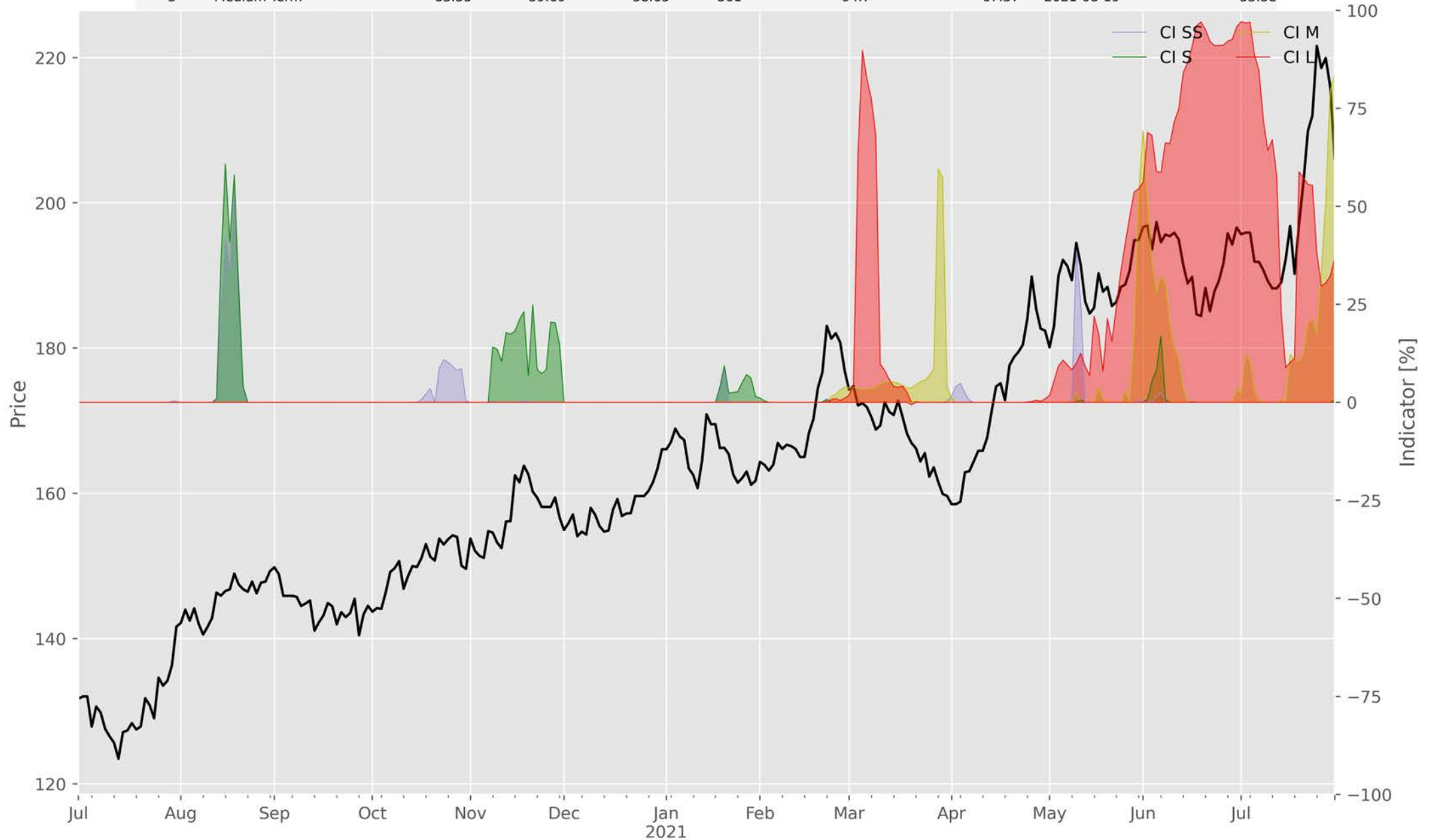
Mlcx Natural Gas Spot Index

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
2	Super Short	29.64	51.24	240.89	85	93.03	87.26	2021-08-05	99.98



Mlcx Softs Spot Index

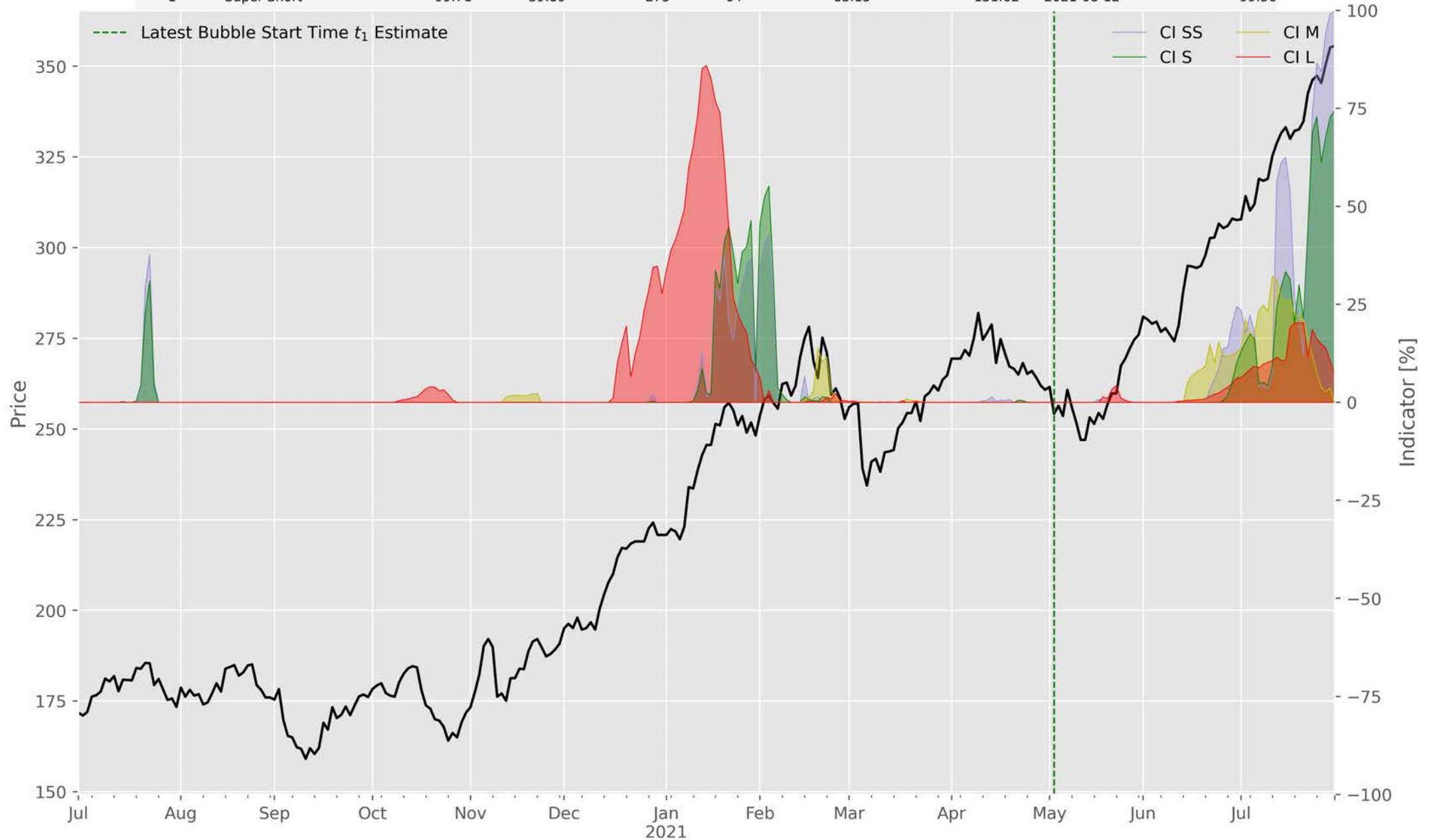
Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
3	Medium Term	83.55	59.69	38.65	361	94.7	67.37	2021-08-19	53.38



Single Stocks

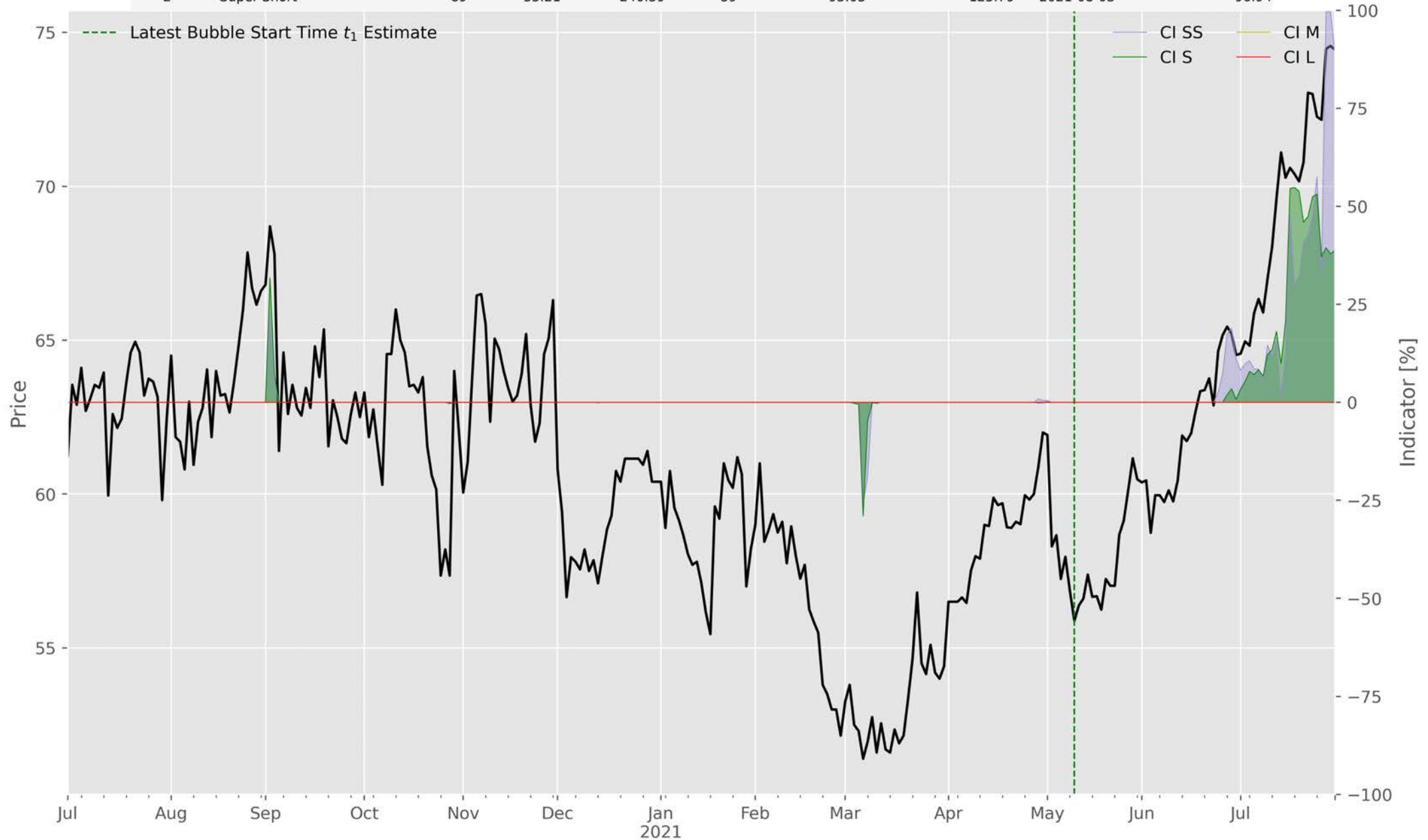
Vat Group

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Super Short	99.71	39.89	275	64	83.15	131.62	2021-08-12	99.56



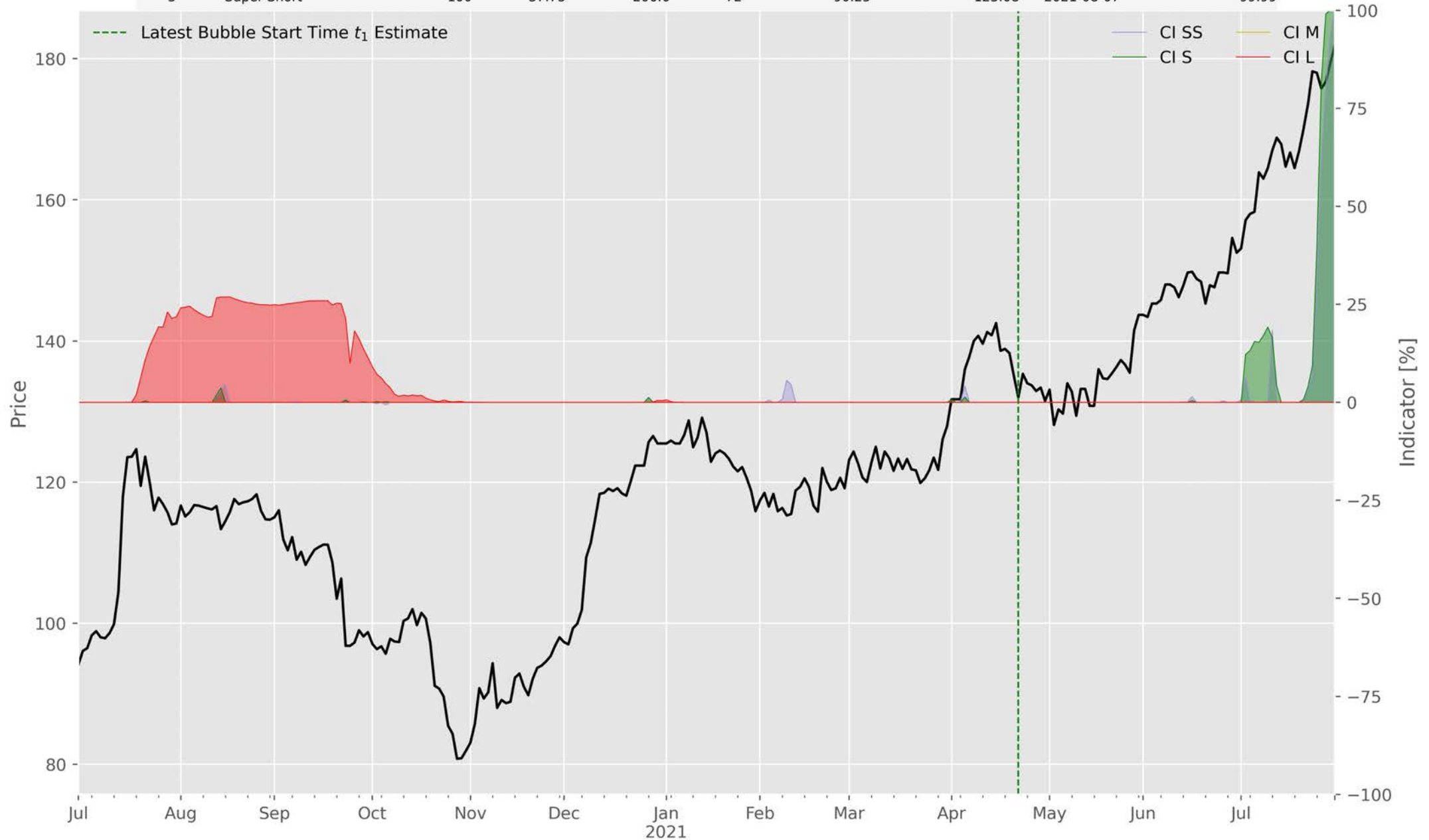
Nemetschek (Xet)

Rank	Strongest Signal	DS-LPPLS Confidence	Bubble Size	Bubble CAGR	Duration	Bubble Progress	Geometric Average	Critical Time	Scenario Probability
		ci [%]	bs [%]	bg [%]	[days]	bp [%]	(ci, bg, bp)	\tilde{t}_c	[%]
2	Super Short	89	33.21	240.39	59	93.03	125.79	2021-08-03	96.94



Beijer Ref B

Rank	Strongest Signal	DS-LPPLS Confidence	Bubble Size	Bubble CAGR	Duration	Bubble Progress	Geometric Average	Critical Time	Scenario Probability
		ci [%]	bs [%]	bg [%]	[days]	bp [%]	(ci, bg, bp)	\hat{t}_c	[%]
3	Super Short	100	37.73	206.6	72	90.25	123.08	2021-08-07	99.99



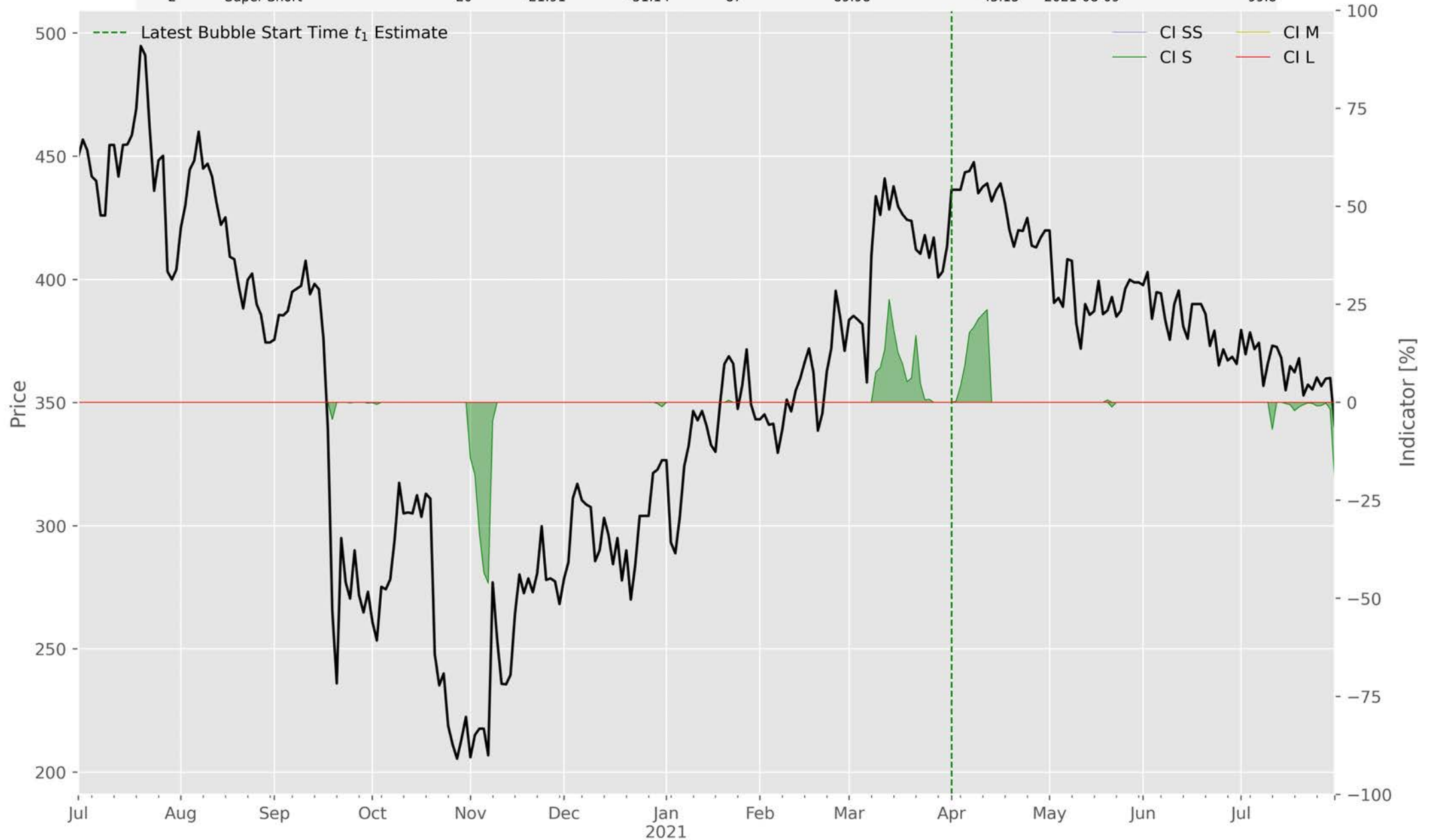
Cairn Energy

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Super Short	70.29	-27.15	-71.28	64	95.96	78.34	2021-08-02	59.21



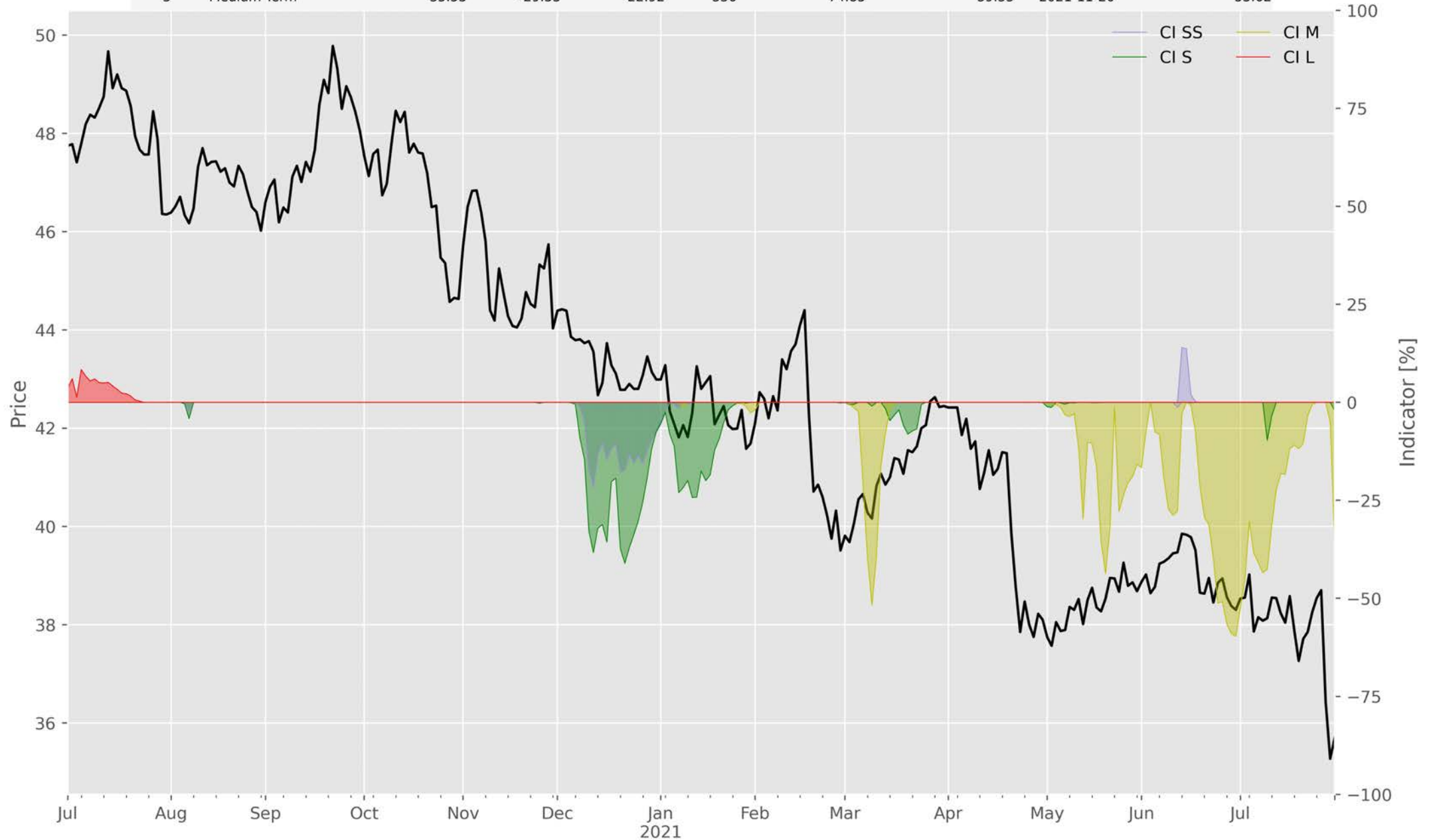
Network International Holdings

Rank	Strongest Signal	DS-LPPLS Confidence	Bubble Size	Bubble CAGR	Duration	Bubble Progress	Geometric Average	Critical Time	Scenario Probability
		ci [%]	bs [%]	bg [%]	[days]	bp [%]	(ci, bg, bp)	\hat{t}_c	[%]
2	Super Short	20	-21.91	-51.14	87	89.98	45.15	2021-08-09	99.8



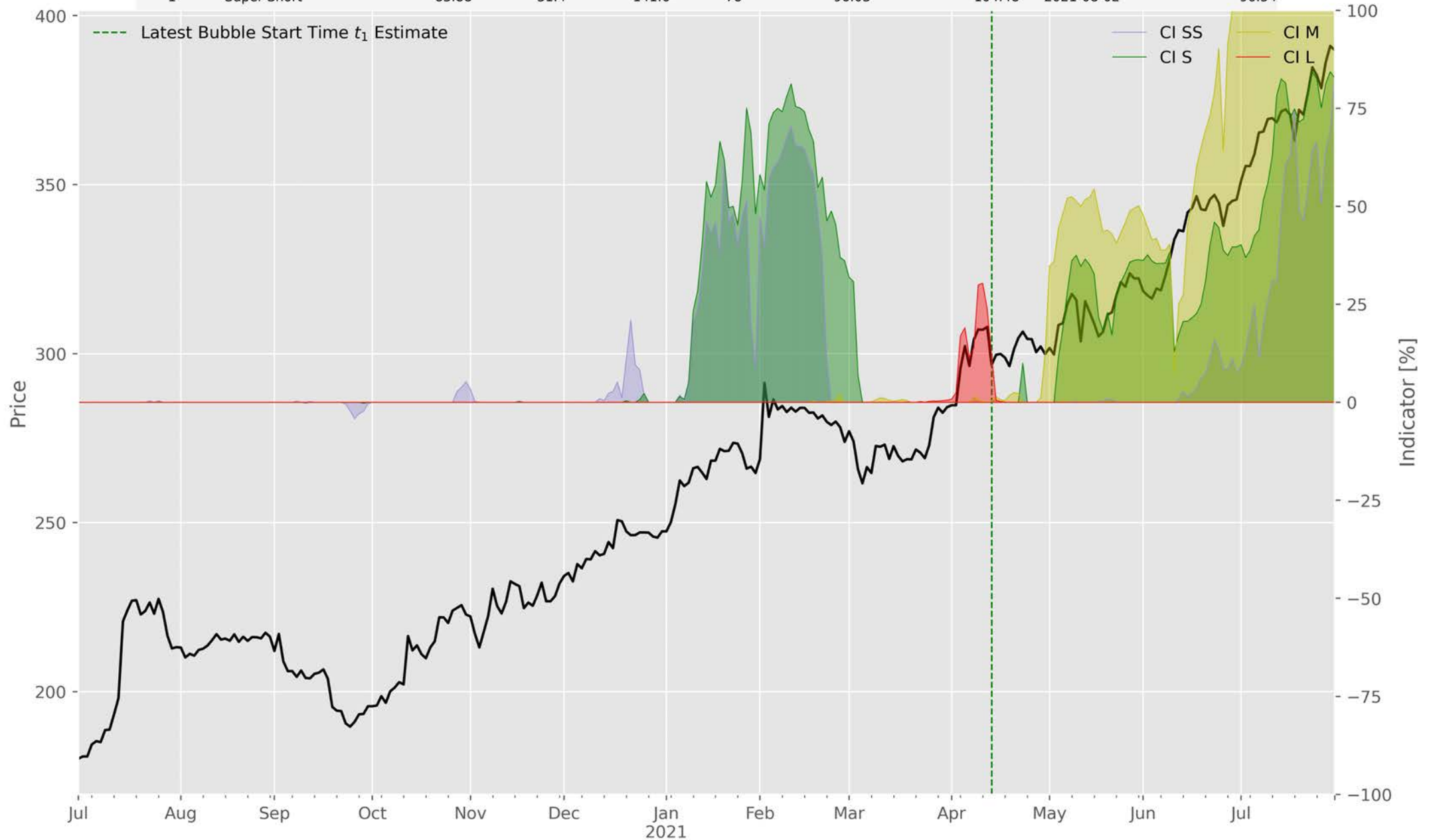
Koninklijke Vopak

Rank	Strongest Signal	DS-LPPLS Confidence	Bubble Size	Bubble CAGR	Duration	Bubble Progress	Geometric Average	Critical Time	Scenario Probability
		ci [%]	bs [%]	bg [%]	[days]	bp [%]	(ci, bg, bp)	\hat{t}_c	[%]
3	Medium Term	35.53	-29.33	-22.92	336	74.85	39.35	2021-11-20	53.62



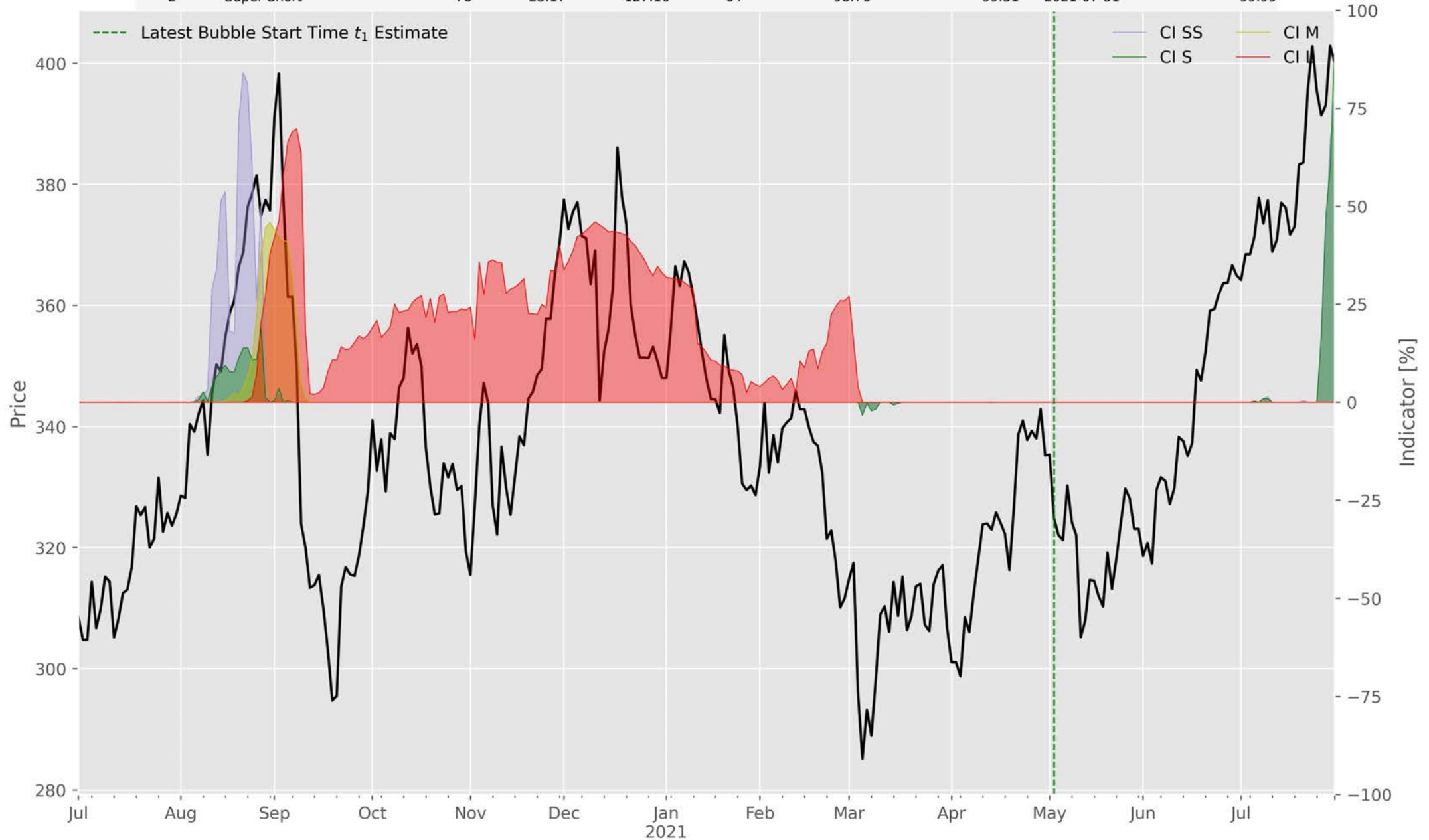
Waters

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Super Short	83.88	31.4	141.6	78	96.03	104.48	2021-08-02	96.54



Lululemon Athletica

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
2	Super Short	78	23.17	127.16	64	98.76	99.31	2021-07-31	99.99



Garmin

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
3	Super Short	98.28	15.46	86.75	58	97.14	93.91	2021-08-01	100



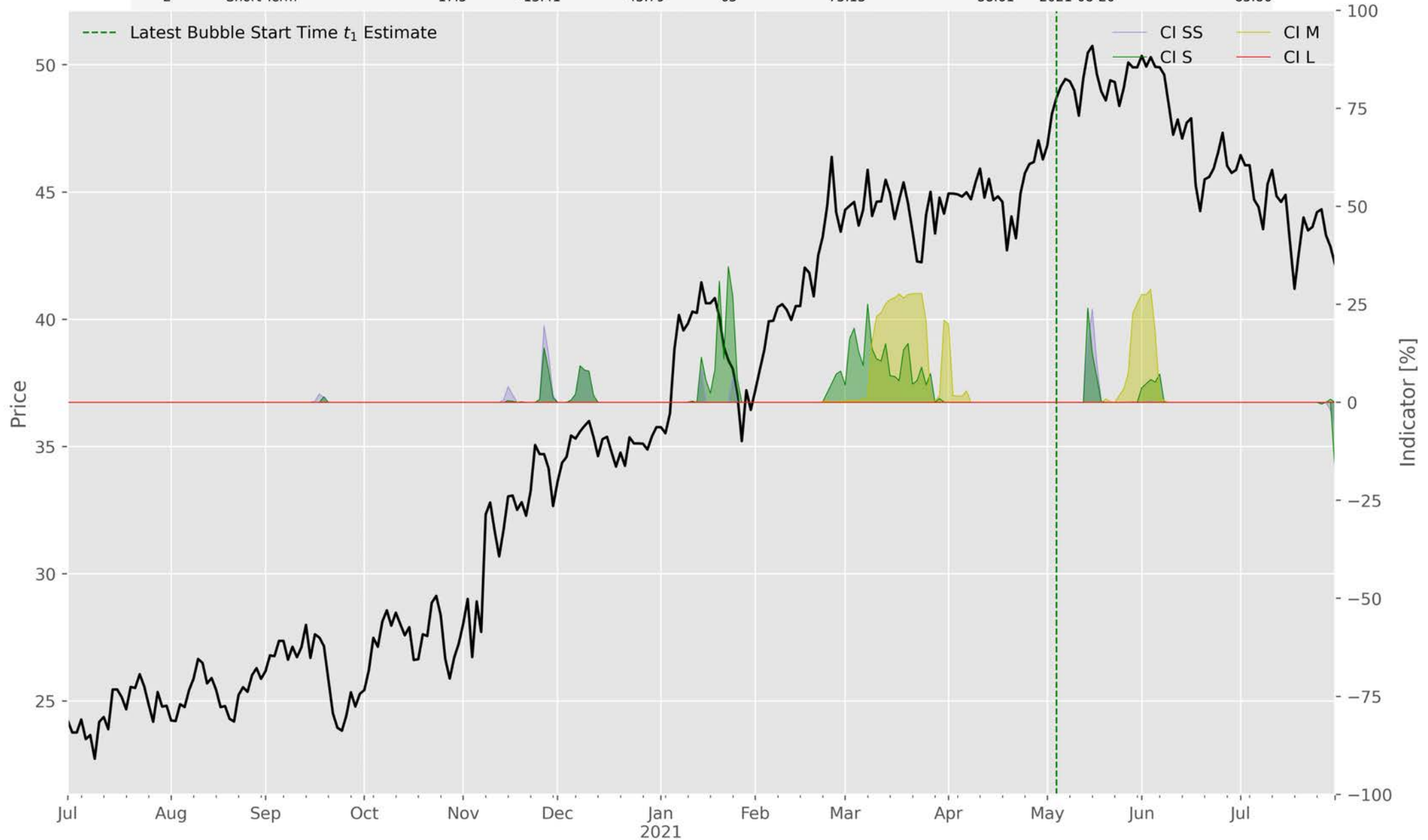
Alliance Data Systems

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Super Short	44.47	-21.4	-59.58	67	87.11	61.34	2021-08-09	51.09



Citizens Financial Group

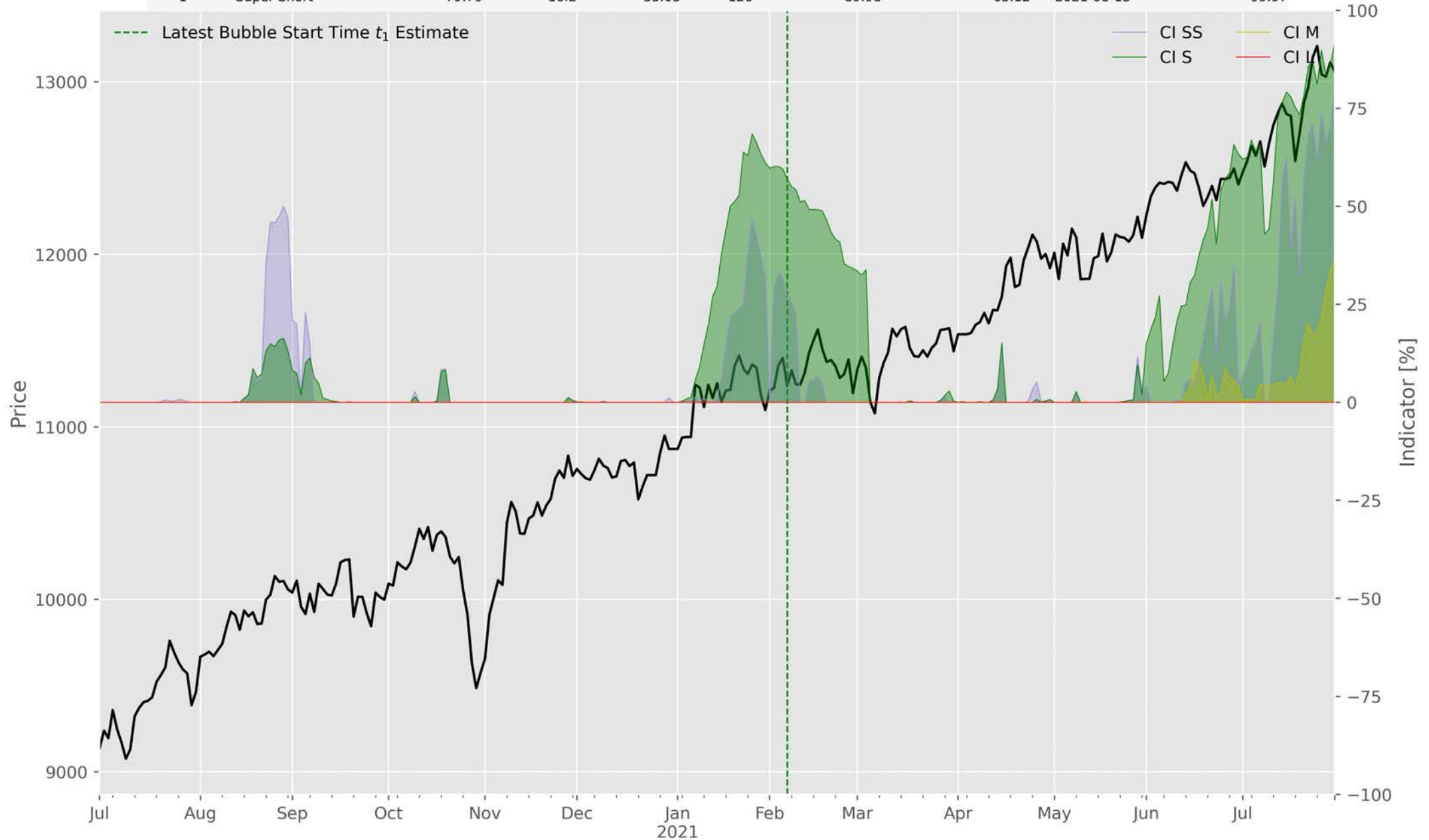
Rank	Strongest Signal	DS-LPPLS Confidence	Bubble Size	Bubble CAGR	Duration	Bubble Progress	Geometric Average	Critical Time	Scenario Probability
		ci [%]	bs [%]	bg [%]	[days]	bp [%]	(ci, bg, bp)	\hat{t}_c	[%]
2	Short Term	17.5	-13.41	-43.79	63	75.13	38.61	2021-08-20	85.86



Equity Indices

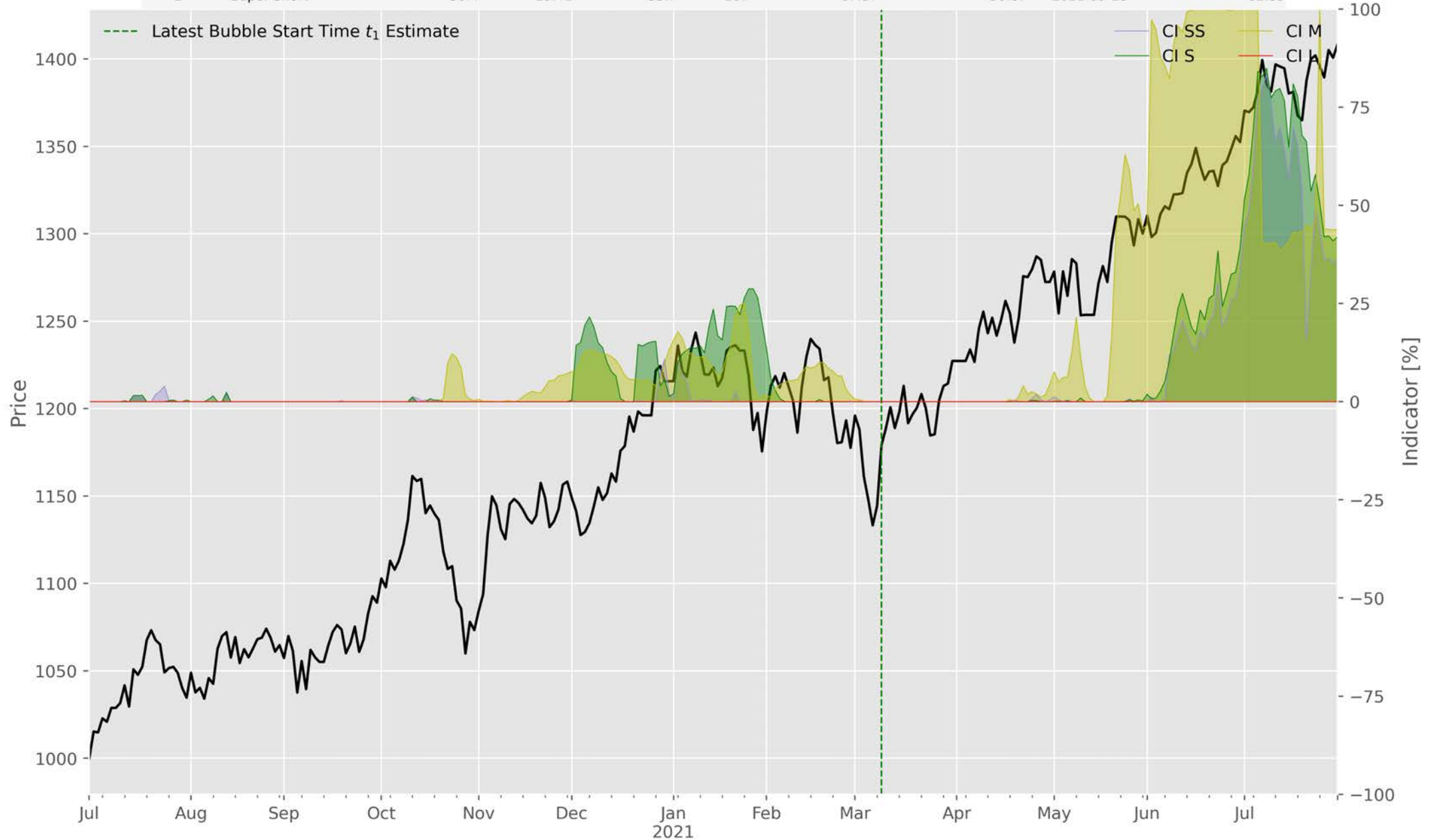
Omx Helsinki (Omxh)

Rank	Strongest Signal	DS-LPPLS Confidence ci [%]	Bubble Size bs [%]	Bubble CAGR bg [%]	Duration [days]	Bubble Progress bp [%]	Geometric Average (ci, bg, bp)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Super Short	79.79	16.2	35.03	126	89.98	63.12	2021-08-13	99.97



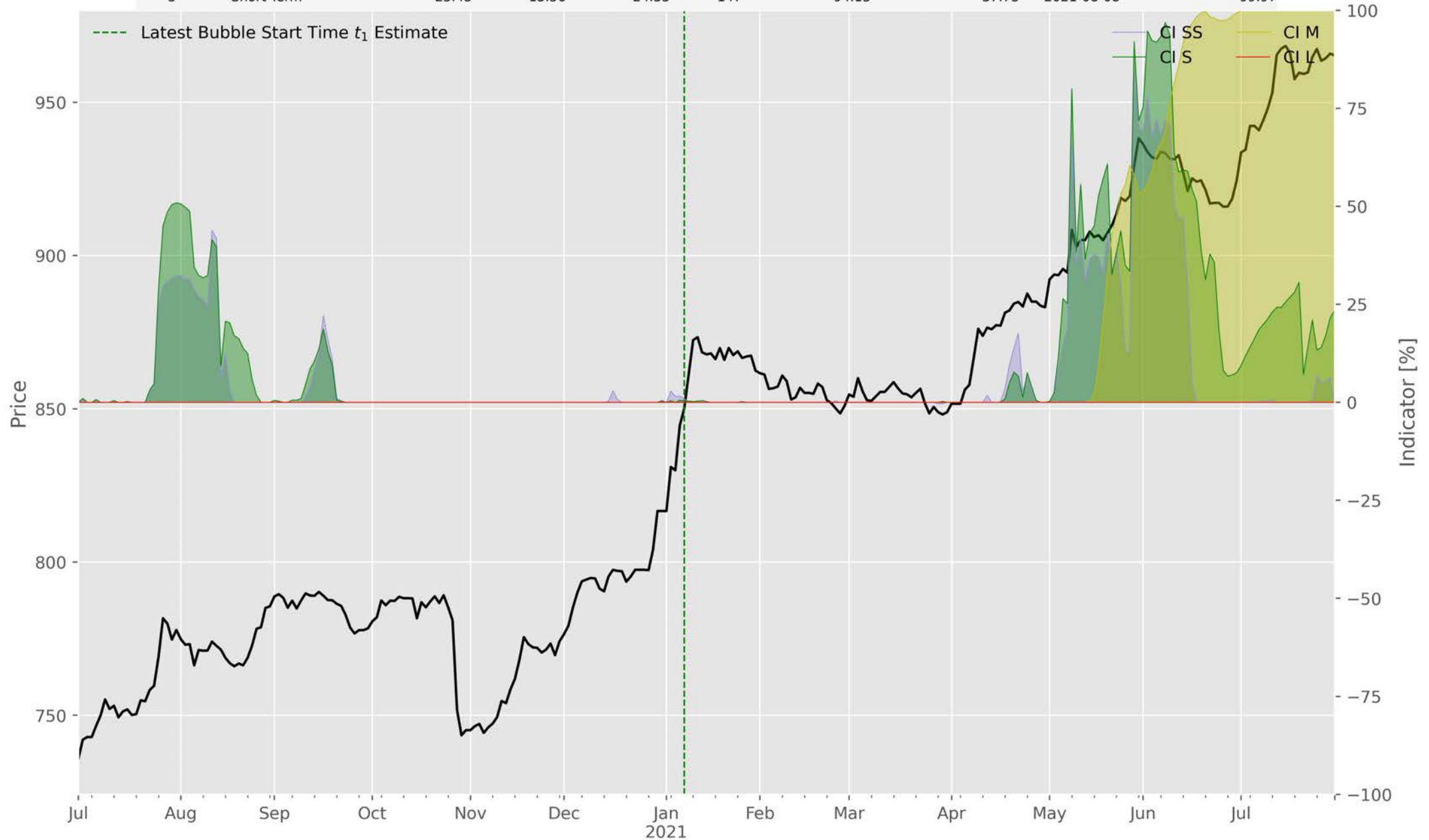
Omx Copenhagen (Omx)

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
2	Super Short	36.4	19.41	53.7	104	67.37	50.87	2021-09-18	81.89



Omx Vilnius (Omxv)

Rank	Strongest Signal	DS-LPPLS Confidence	Bubble Size	Bubble CAGR	Duration	Bubble Progress	Geometric Average	Critical Time	Scenario Probability
		<i>ci</i> [%]	<i>bs</i> [%]	<i>bg</i> [%]	[days]	<i>bp</i> [%]	(<i>ci</i> , <i>bg</i> , <i>bp</i>)	\hat{t}_c	[%]
3	Short Term	23.43	13.56	24.35	147	94.13	37.73	2021-08-08	99.97



S&P500 Consumer Electronics

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Super Short	97.93	15.46	86.78	58	97.14	93.81	2021-08-01	100



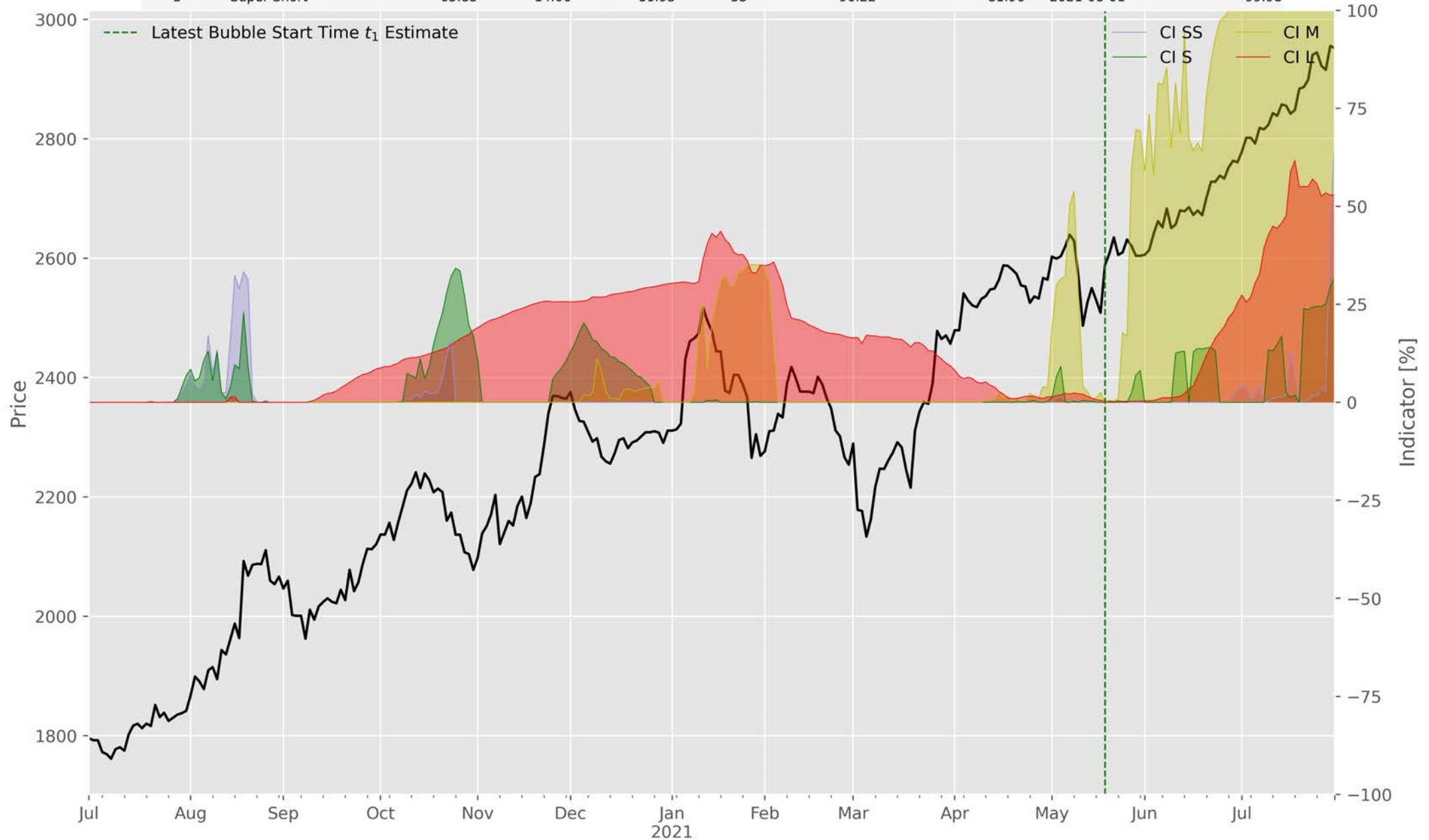
S&P1500 Consumer Electronics

Rank	Strongest Signal	DS-LPPLS Confidence ci [%]	Bubble Size bs [%]	Bubble CAGR bg [%]	Duration [days]	Bubble Progress bp [%]	Geometric Average (ci, bg, bp)	Critical Time \hat{t}_c	Scenario Probability [%]
2	Super Short	93.57	13.44	74.64	57	97.17	87.88	2021-08-01	100



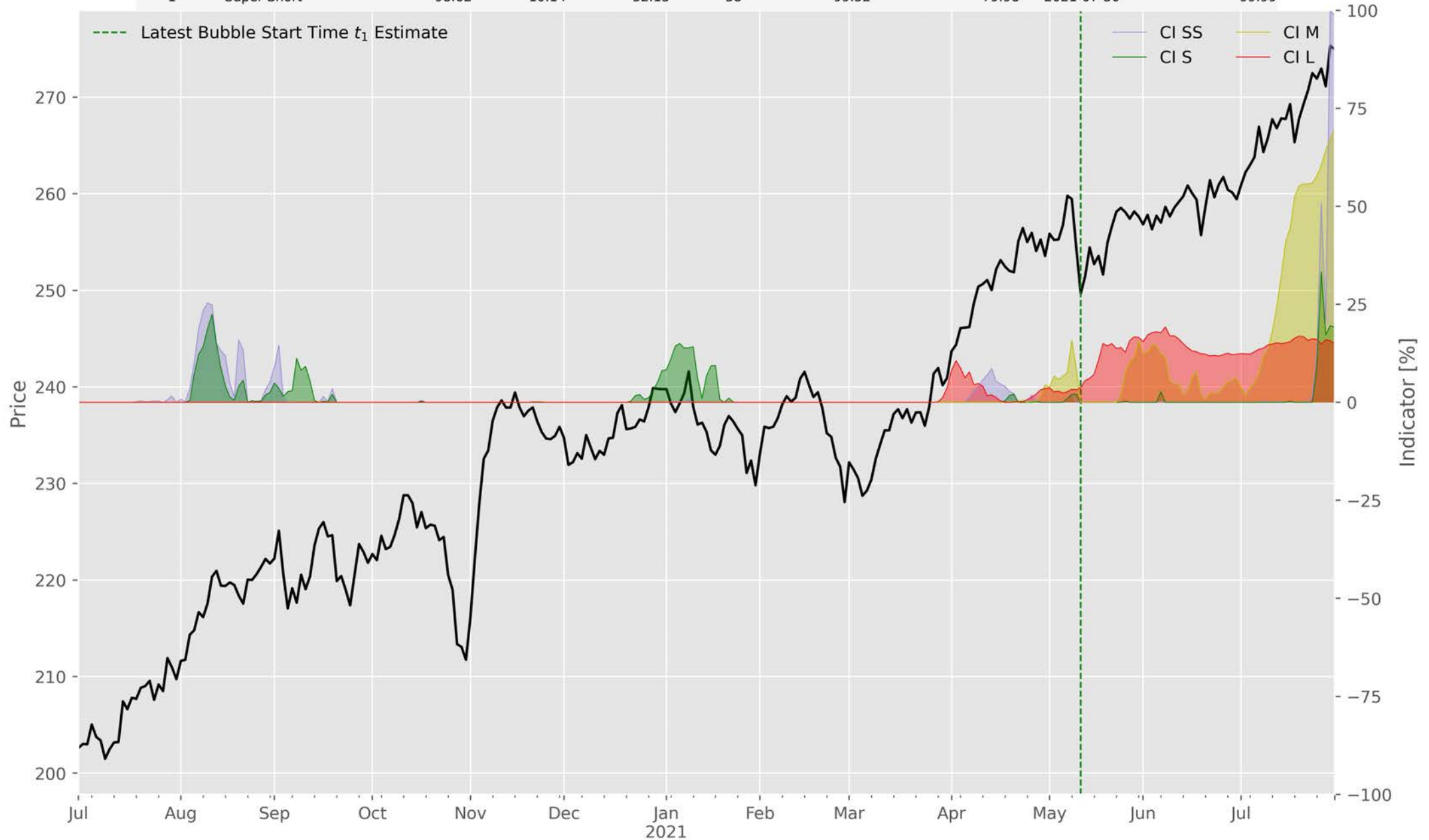
S&P500 General Merch Stores

Rank	Strongest Signal	DS-LPPLS Confidence ci [%]	Bubble Size bs [%]	Bubble CAGR bg [%]	Duration [days]	Bubble Progress bp [%]	Geometric Average (ci, bg, bp)	Critical Time \hat{t}_c	Scenario Probability [%]
3	Super Short	65.83	14.06	86.93	53	96.22	81.96	2021-08-01	99.98



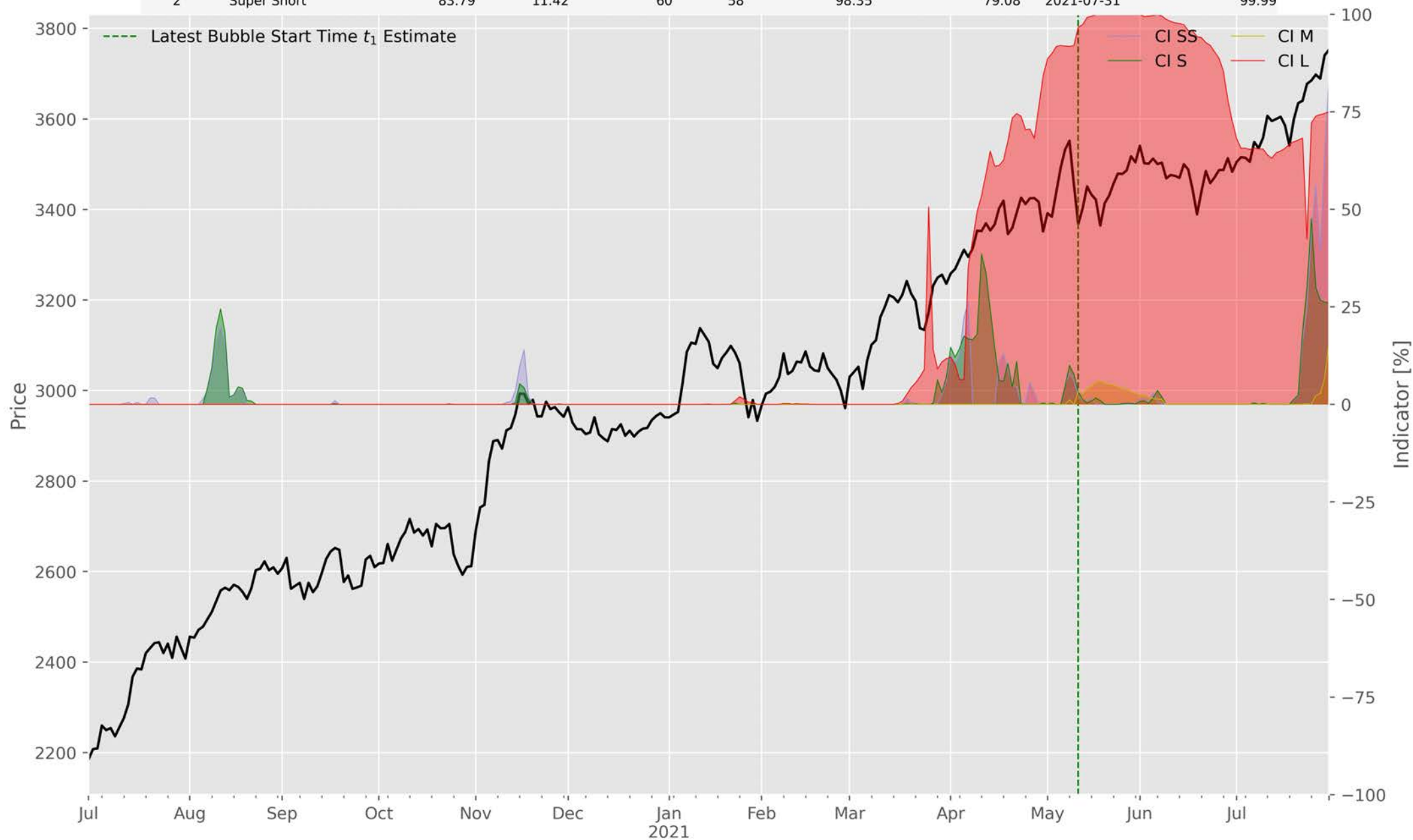
Msci World Coml/Prof Svs U\$

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Super Short	98.62	10.14	52.13	58	99.52	79.98	2021-07-30	99.99



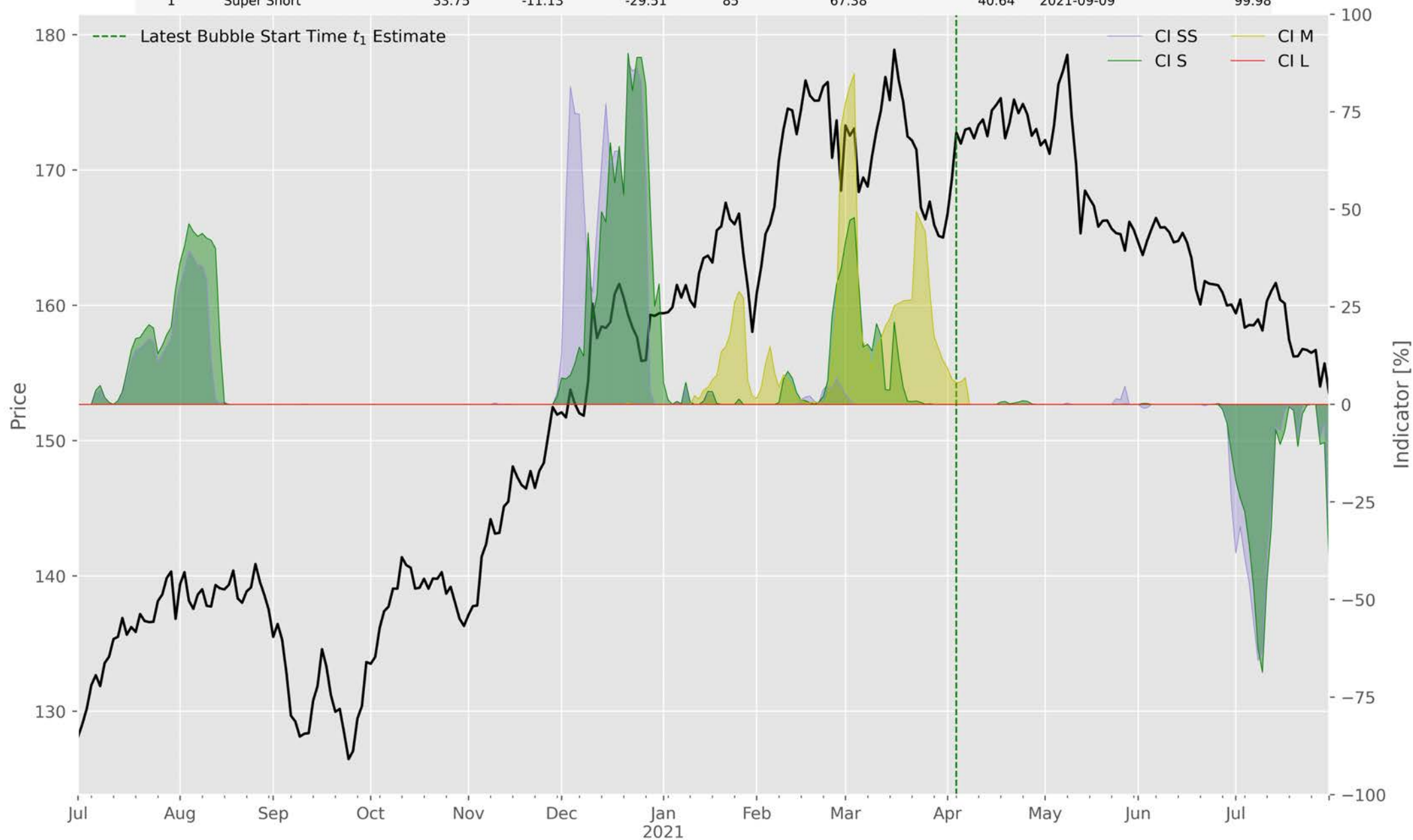
S&P Global 1200 Building Prod

Rank	Strongest Signal	DS-LPPLS Confidence ci [%]	Bubble Size bs [%]	Bubble CAGR bg [%]	Duration [days]	Bubble Progress bp [%]	Geometric Average (ci, bg, bp)	Critical Time \hat{t}_c	Scenario Probability [%]
2	Super Short	83.79	11.42	60	58	98.35	79.08	2021-07-31	99.99



Msci World W/L T/Cm Svs \$

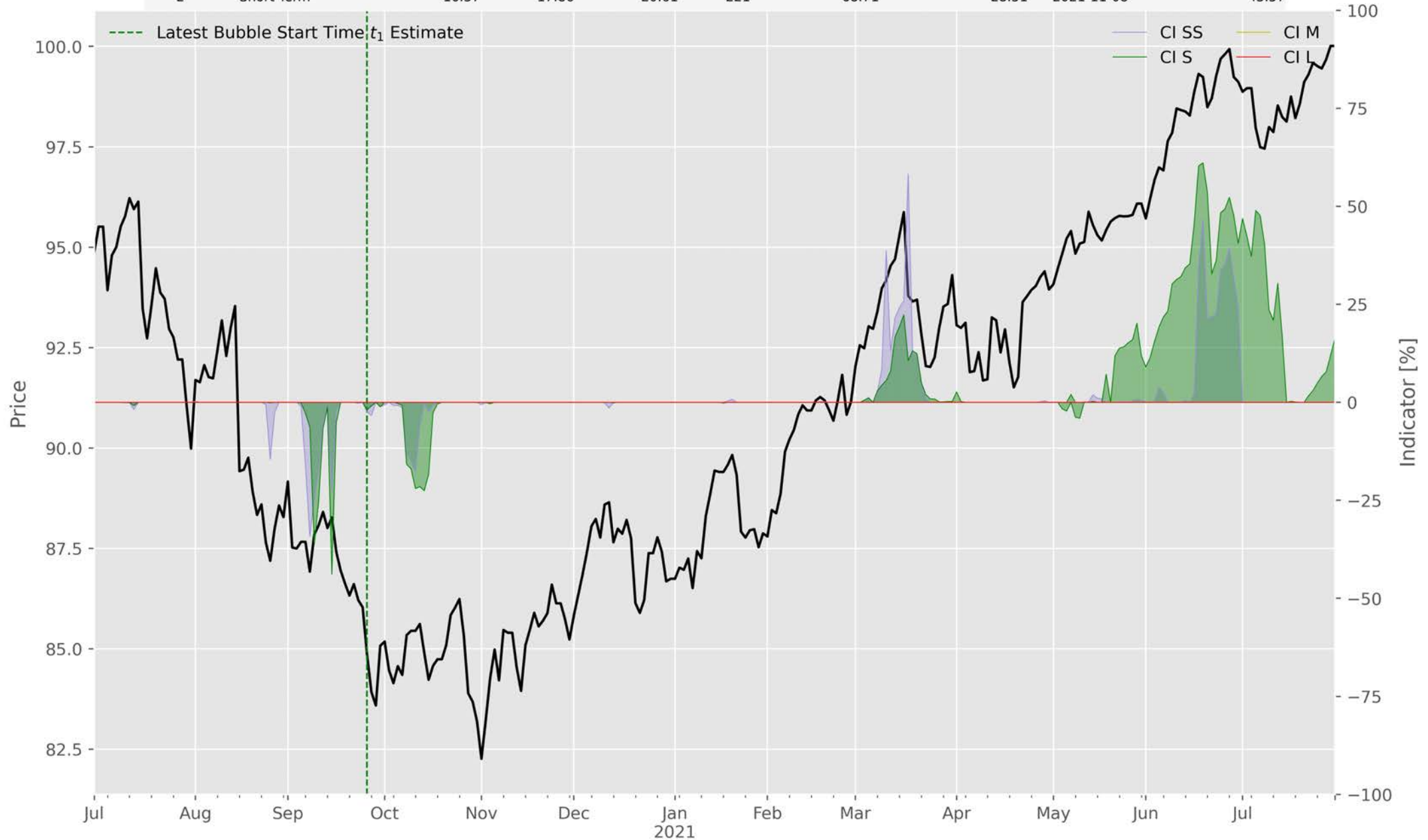
Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Super Short	33.75	-11.13	-29.51	85	67.38	40.64	2021-09-09	99.98



Forex

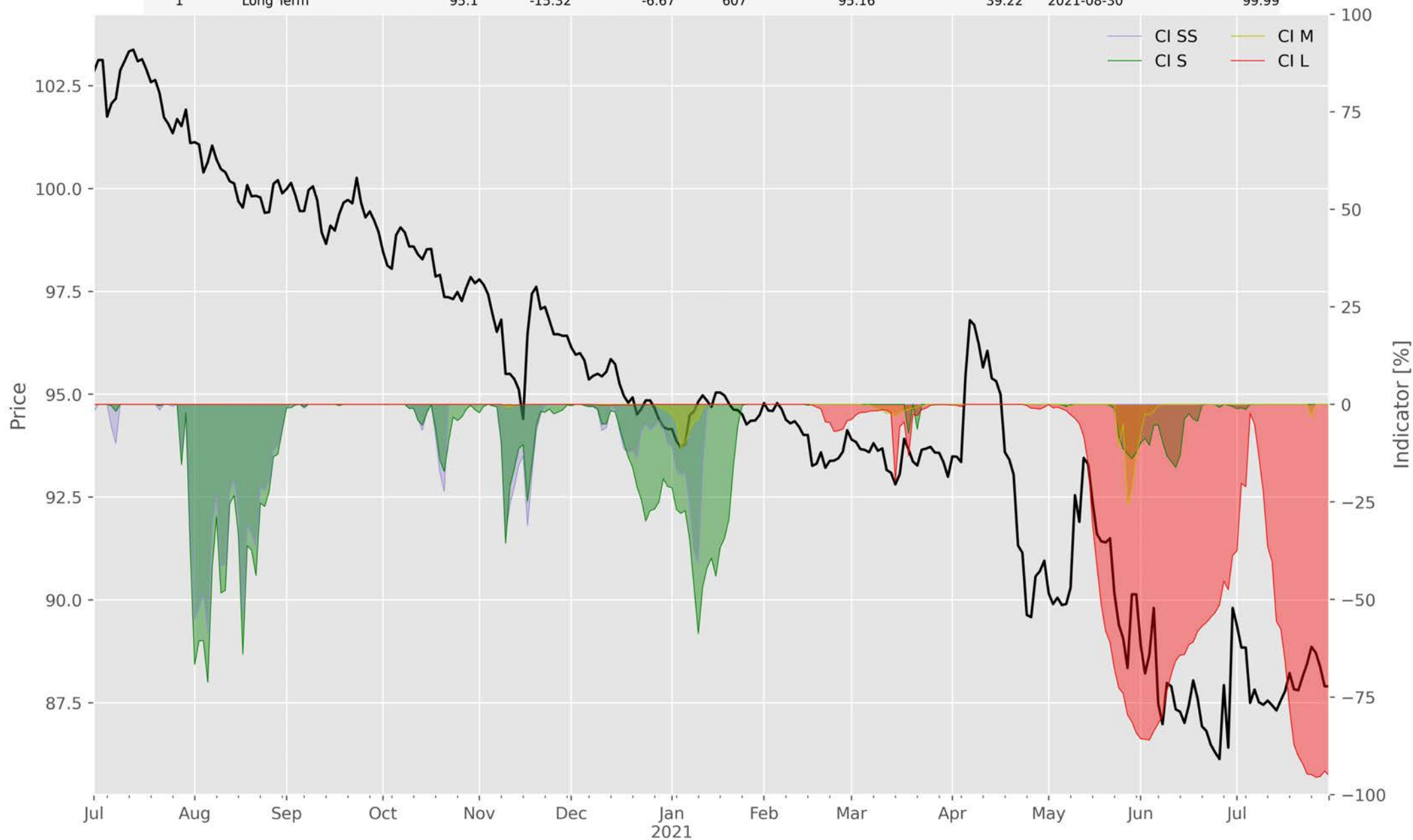
Jpm Russia Reer Ppi (2010=100)

Rank	Strongest Signal	DS-LPPLS Confidence ci [%]	Bubble Size bs [%]	Bubble CAGR bg [%]	Duration [days]	Bubble Progress bp [%]	Geometric Average (ci, bg, bp)	Critical Time \hat{t}_c	Scenario Probability [%]
2	Short Term	16.37	17.86	20.61	221	68.71	28.51	2021-11-08	43.57



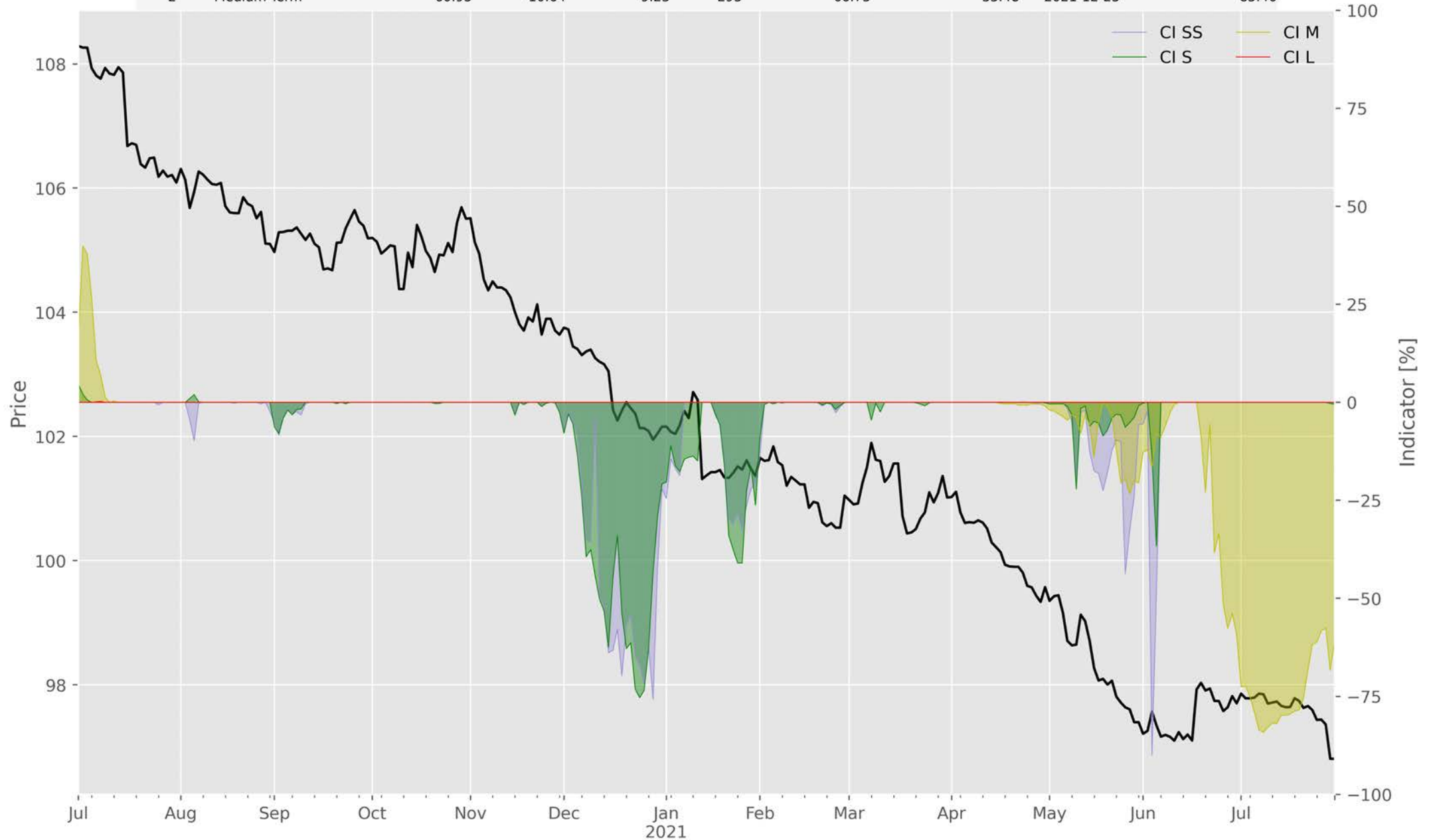
Jpm Peru Reer Cpi (2010=100)

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Long Term	95.1	-15.32	-6.67	607	95.16	39.22	2021-08-30	99.99



Jpm Kuwait Reer Ppi (2010=100)

Rank	Strongest Signal	DS-LPPLS Confidence	Bubble Size	Bubble CAGR	Duration	Bubble Progress	Geometric Average	Critical Time	Scenario Probability
		<i>ci</i> [%]	<i>bs</i> [%]	<i>bg</i> [%]	[days]	<i>bp</i> [%]	(<i>ci</i> , <i>bg</i> , <i>bp</i>)	\hat{t}_c	[%]
2	Medium Term	60.95	-10.64	-9.23	293	66.75	33.48	2021-12-23	85.46



Jpm Thailand Reer Ppi (2010=100)

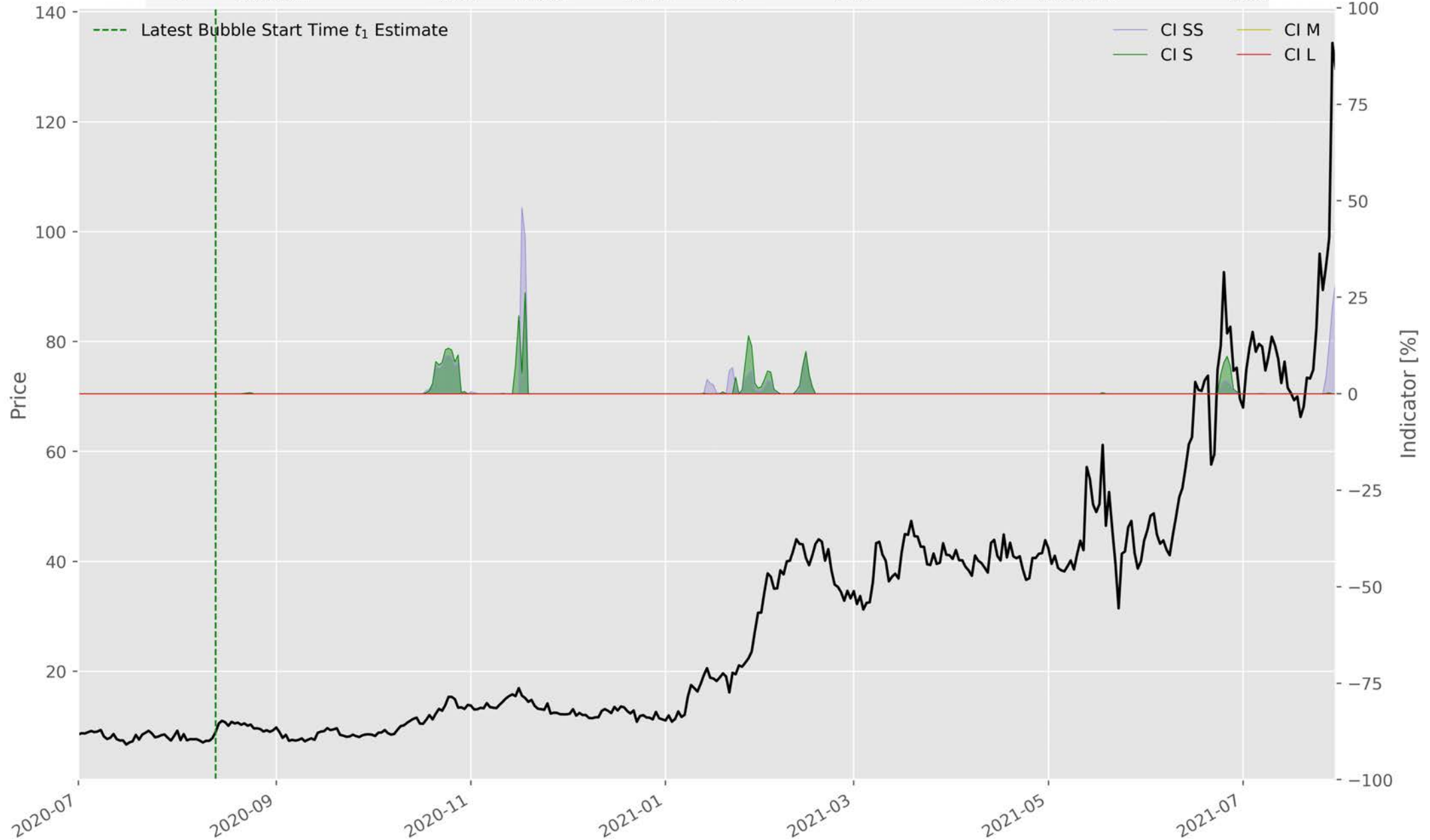
Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
3	Medium Term	24.39	-13.48	-6.98	504	97.97	25.55	2021-08-09	97.16



CryptoX

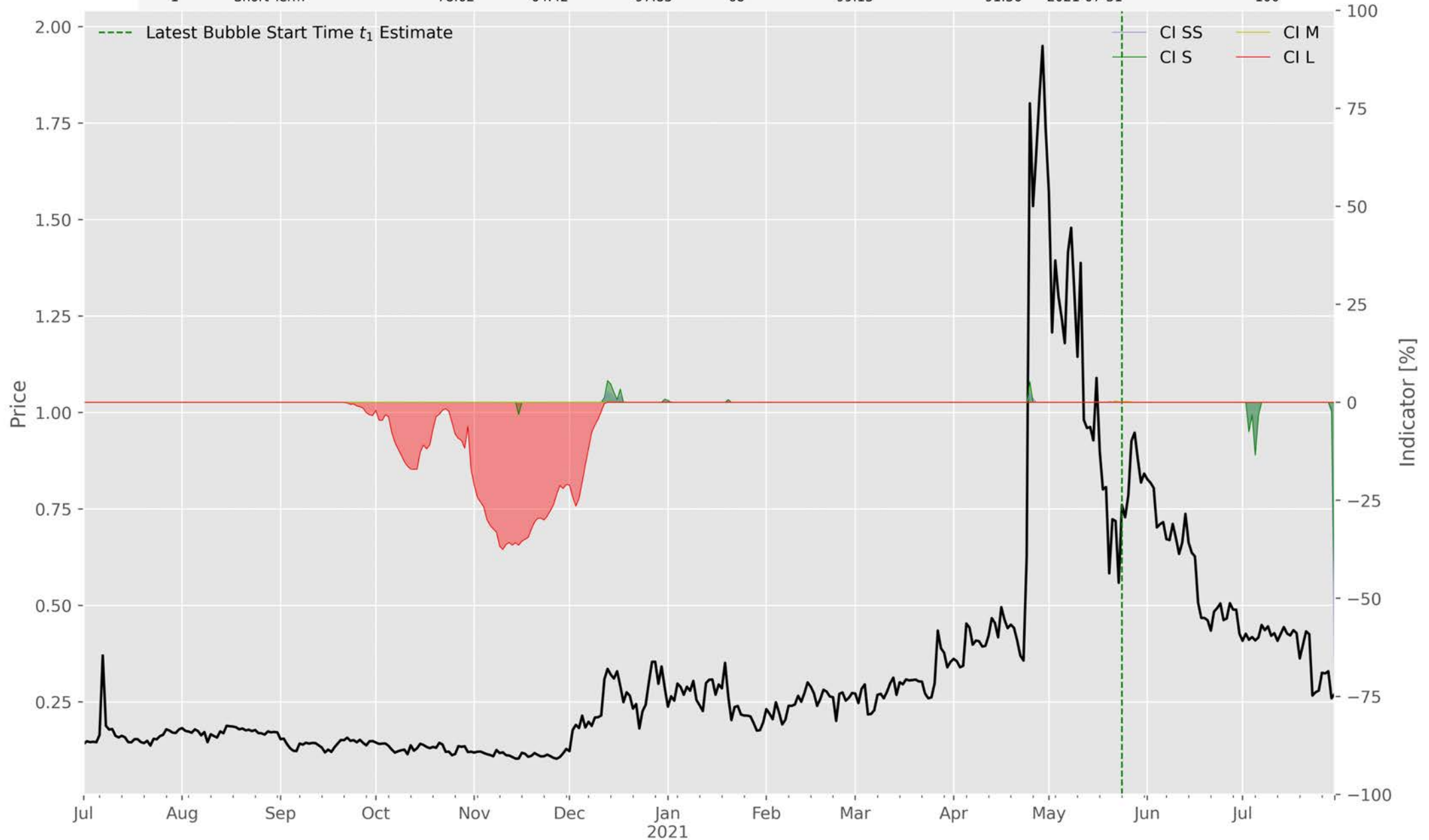
Quant/USD

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci</i> , <i>bg</i> , <i>bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Short Term	28.97	1352.82	582.98	351	96.78	117.8	2021-08-11	99.99



CloakCoin/USD

Rank	Strongest Signal	DS-LPPLS Confidence <i>ci</i> [%]	Bubble Size <i>bs</i> [%]	Bubble CAGR <i>bg</i> [%]	Duration [days]	Bubble Progress <i>bp</i> [%]	Geometric Average (<i>ci, bg, bp</i>)	Critical Time \hat{t}_c	Scenario Probability [%]
1	Short Term	78.62	-64.42	-97.83	68	99.13	91.36	2021-07-31	100



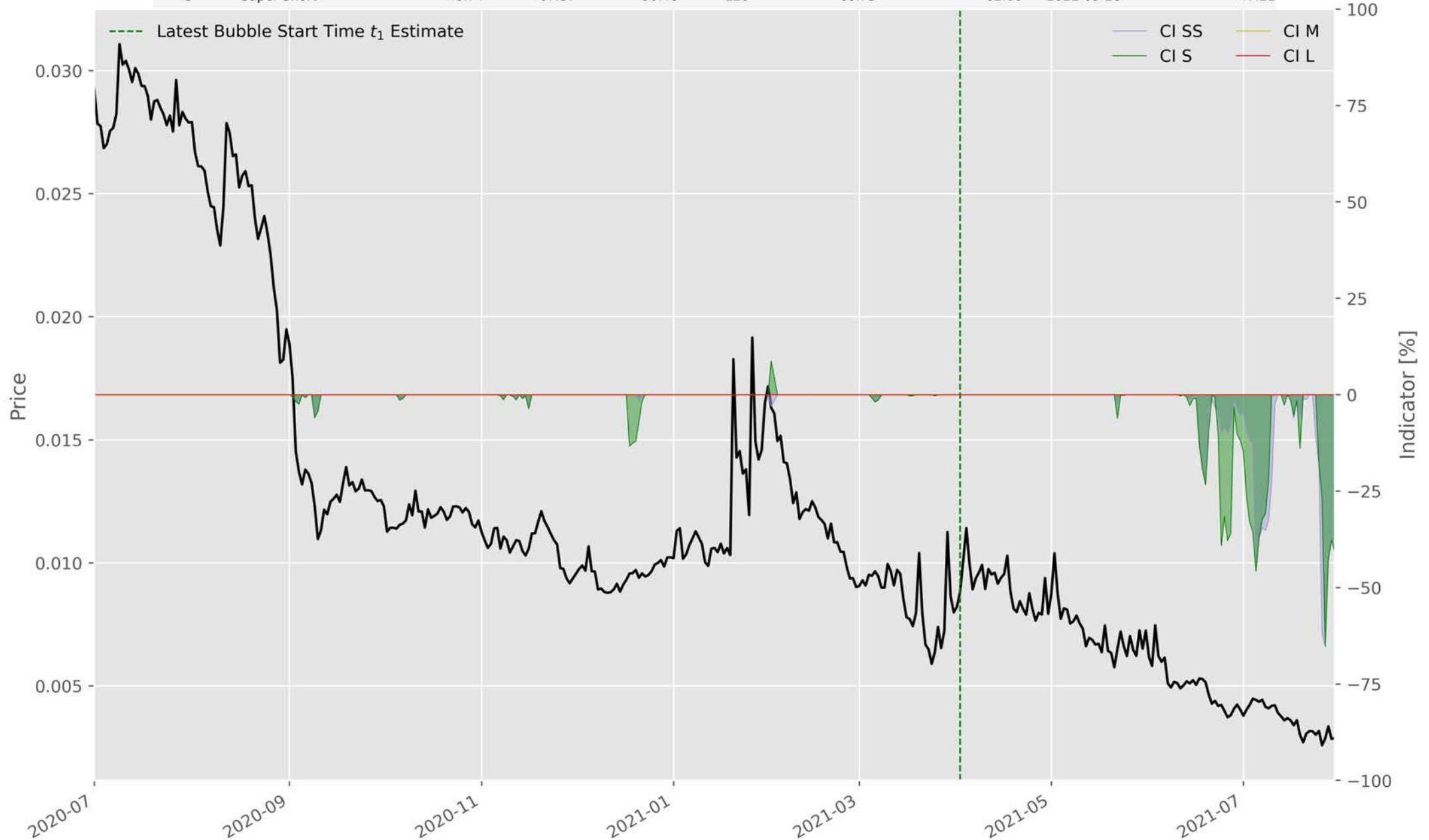
ZrCoin/USD

Rank	Strongest Signal	DS-LPPLS Confidence	Bubble Size	Bubble CAGR	Duration	Bubble Progress	Geometric Average	Critical Time	Scenario Probability
		ci [%]	bs [%]	bg [%]	[days]	bp [%]	(ci, bg, bp)	\hat{t}_c	[%]
2	Medium Term	85.06	-88.05	-57.77	621	73.39	71.18	2022-03-12	92.56



ILCoin/USD

Rank	Strongest Signal	DS-LPPLS Confidence ci [%]	Bubble Size bs [%]	Bubble CAGR bg [%]	Duration [days]	Bubble Progress bp [%]	Geometric Average (ci, bg, bp)	Critical Time \hat{t}_c	Scenario Probability [%]
3	Super Short	40.74	-67.37	-90.48	120	66.73	62.66	2021-09-28	47.21

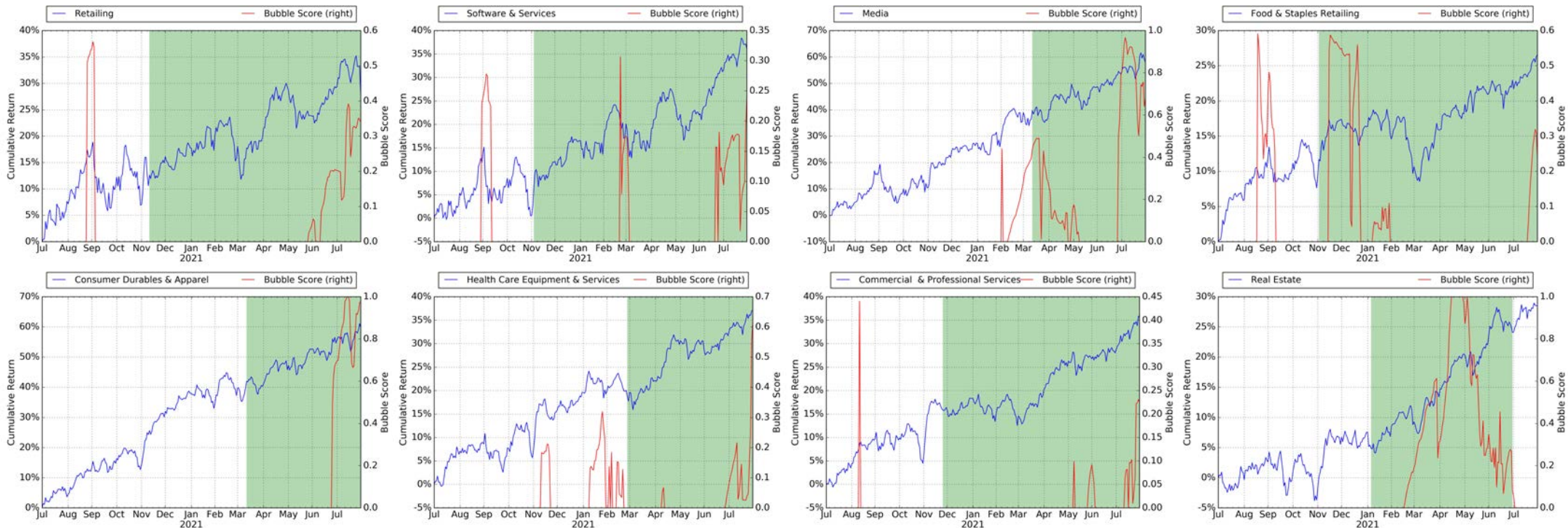


Sectors

GICS Industry Group Name	Yearly Return		Bubble Size		Bubble Score		Value Score		Growth Score	
	Aug 1st	Jul 1st	Aug 1st	Jul 1st	Aug 1st	Jul 1st	Aug 1st	Jul 1st	Aug 1st	Jul 1st
Pharmaceuticals, Biotechnology & Life Sciences	14.7%	12.2%	0.0%	0.0%	0.0%	0.0%	65.2%	64.4%	57.4%	57.0%
Consumer Services	29.3%	39.0%	0.0%	0.0%	0.0%	0.0%	22.2%	22.3%	59.9%	59.8%
Retailing	15.7%	23.9%	13.4%	17.0%	34.1%	20.3%	18.1%	19.8%	43.8%	44.0%
Transportation	24.4%	43.2%	0.0%	0.0%	0.0%	0.0%	44.9%	43.1%	55.1%	58.2%
Consumer Durables & Apparel	44.2%	49.6%	12.5%	8.6%	97.7%	68.7%	35.6%	34.2%	49.1%	48.9%
Semiconductors & Semiconductor Equipment	53.7%	57.2%	0.0%	0.0%	0.0%	0.0%	57.8%	58.5%	40.5%	40.1%
Technology Hardware & Equipment	30.2%	40.2%	0.0%	0.0%	0.0%	0.0%	54.8%	59.1%	50.6%	50.2%
Automobiles & Components	64.2%	77.4%	0.0%	0.0%	0.0%	0.0%	57.0%	59.4%	40.1%	38.4%
Telecommunication Services	4.3%	9.0%	0.0%	0.0%	0.0%	0.0%	61.4%	60.7%	43.2%	43.2%
Energy	24.4%	36.6%	0.0%	0.0%	0.0%	0.0%	50.6%	50.4%	69.4%	70.1%
Software & Services	31.1%	30.4%	27.1%	22.9%	24.4%	11.0%	36.3%	28.1%	51.2%	53.6%
Materials	29.8%	33.9%	0.0%	0.0%	0.0%	0.0%	46.9%	47.5%	51.1%	50.6%
Health Care Equipment & Services	26.5%	29.3%	15.5%	24.7%	61.5%	5.9%	48.4%	49.0%	52.1%	51.8%
Capital Goods	32.0%	41.2%	0.0%	0.0%	0.0%	0.0%	49.1%	48.7%	49.8%	49.9%
Media & Entertainment	46.2%	48.0%	13.1%	11.8%	68.1%	79.1%	29.3%	29.5%	31.9%	32.1%
Commercial & Professional Services	24.4%	27.7%	17.2%	0.0%	22.6%	0.0%	28.3%	27.7%	52.3%	52.0%
Food & Staples Retailing	16.1%	16.5%	13.3%	0.0%	23.9%	0.0%	42.5%	44.4%	63.8%	63.5%
Household & Personal Products	3.3%	8.4%	0.0%	0.0%	0.0%	0.0%	27.2%	28.7%	57.3%	52.9%
Food, Beverage & Tobacco	12.8%	16.4%	0.0%	0.0%	0.0%	0.0%	47.1%	48.1%	57.4%	58.0%
Utilities	6.4%	7.9%	0.0%	0.0%	0.0%	0.0%	45.3%	45.8%	53.5%	53.1%
Insurance	23.5%	28.5%	0.0%	0.0%	0.0%	0.0%	-	-	-	-
Real Estate	26.5%	26.4%	0.0%	18.3%	0.0%	7.9%	-	-	-	-
Diversified Financials	43.6%	47.3%	0.0%	0.0%	0.0%	0.0%	-	-	-	-
Banks	43.6%	53.3%	0.0%	0.0%	0.0%	0.0%	-	-	-	-

Sectors

- ▶ We use the MSCI World Industry Group Indices to calculate bubble size and bubble score of the corresponding sectors. To determine the value scores and growth scores of the sectors, we average over the corresponding values for each stock of a given sector, weighted by market cap.
- ▶ There are seven positive bubbles identified in the 24 MSCI World Industry Group Indices (see below): *Retailing, Consumer Durables & Apparel, Software & Services, Health Care Equipment & Services, Media & Entertainment, Commercial & Professional Services, Food & Staples Retailing*, five of which were reported already from last month. The high bubble scores indicate that this industry index may face a high probability of correction in the near future. The Real Estate industry group reported last month has lost its upward momentum in the past 1-2 months and no longer has a significant feature of a bubble regime at the moment, although it may continue to develop into a larger bubble.



Portfolio Construction & Performance

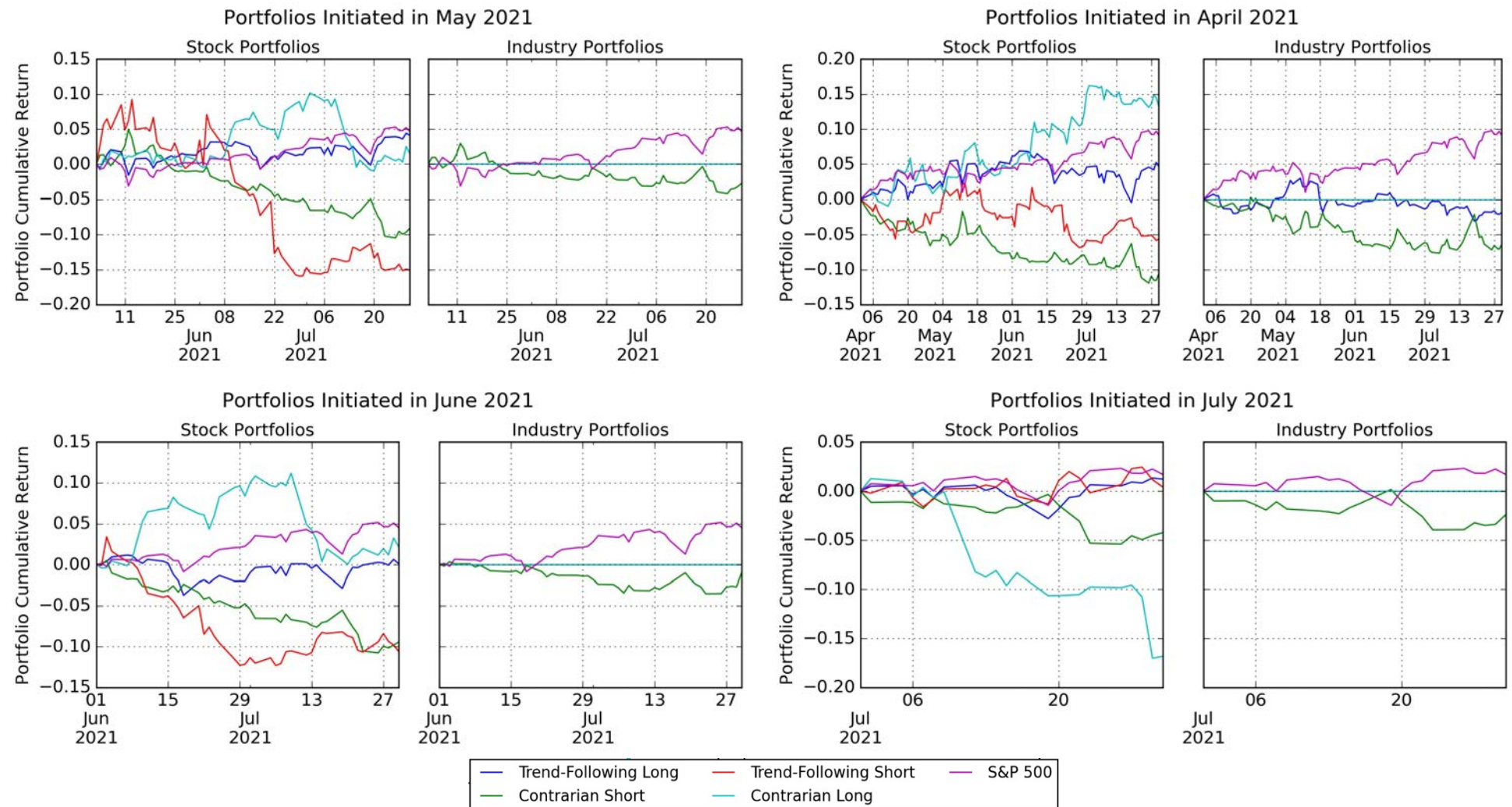
- ▶ Here we illustrate the methodology of the portfolio construction process based on the results of our previous analyses.
- ▶ For individual stocks that we identified in the 4 quadrants, we constructed 4 portfolios based on the 4 quadrants defined in the last report. Each portfolio consists of all the stocks listed in the corresponding quadrant.
 1. **Trend-Following Long Stock Portfolio (TFLSP)** is made of the stocks that have a **positive** bubble signal as well as a **strong** value score. For instance, TFLSP November consists of all the stocks listed in quadrant 1, identified in slide 37 of November 2017 FCO Report.
 2. **Trend-Following Short Stock Portfolio (TFSSP)** is made of the stocks that have a **negative** bubble signal as well as a **weak** value score.
 3. **Contrarian Long Stock Portfolio (CLSP)** is made of the stocks that have a **negative** bubble signal as well as a **strong** value score.
 4. **Contrarian Short Stock Portfolio (CSSP)** is made of the stocks that have a **positive** bubble signal as well as a **weak** value score.

Portfolio Construction & Performance

- ▶ At the same time, we also classified 20 industries into 4 quadrants, and 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).
- ▶ In each month, we initiated 8 new portfolios based on the updated results. The performance of every 8 portfolios we initiated since November 2017 are presented in the next slide. All of the stocks in our portfolios are weighted by their market capitalizations and we don't consider transaction cost in the portfolio performance.

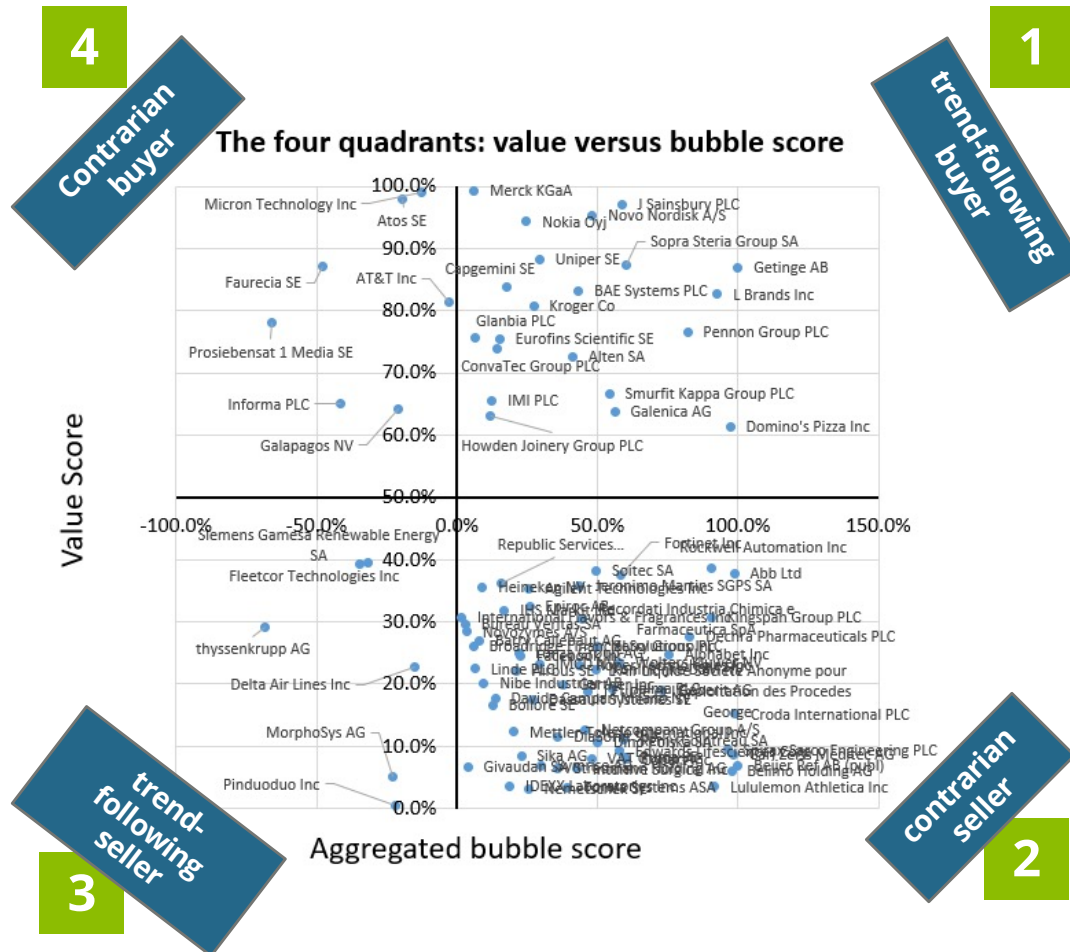
Portfolio Construction & Performance

- In recent months, market has been performing strongly driven by the blue chips, while many medium and small cap stocks have underperformed. Thus it becomes more difficult to beat the market. Contrarian Portfolios are more delicate to use due to their sensitivity to timing the expected reversal and exhibit very volatile performances. 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 over which the predicted corrections play out.



Single Stocks

We can divide the stocks into four quadrants¹⁾



- **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**. E.g. L Brands Inc.
- **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**. E.g. Abb Ltd.
- **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**. E.g. Delta Air Lines Inc
- **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**. E.g. Atos SE.

¹⁾ A strong positive bubble signal is identified if bubble score is positive, and a strong negative bubble signal is identified if bubble score is negative.
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

- ▶ For 823 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.
- ▶ To analyze the **financial strength of individual stocks**, we have two indicators. 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.
 - 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; Value scores are calculated by comparing ROIC level versus EV/IC in each industry.
 - A **growth score** that has characteristics similar to the PEG ratio, which is the Price to Earnings ratio normalized by the expected growth of the EPS (Earnings per Share).
- ▶ 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.

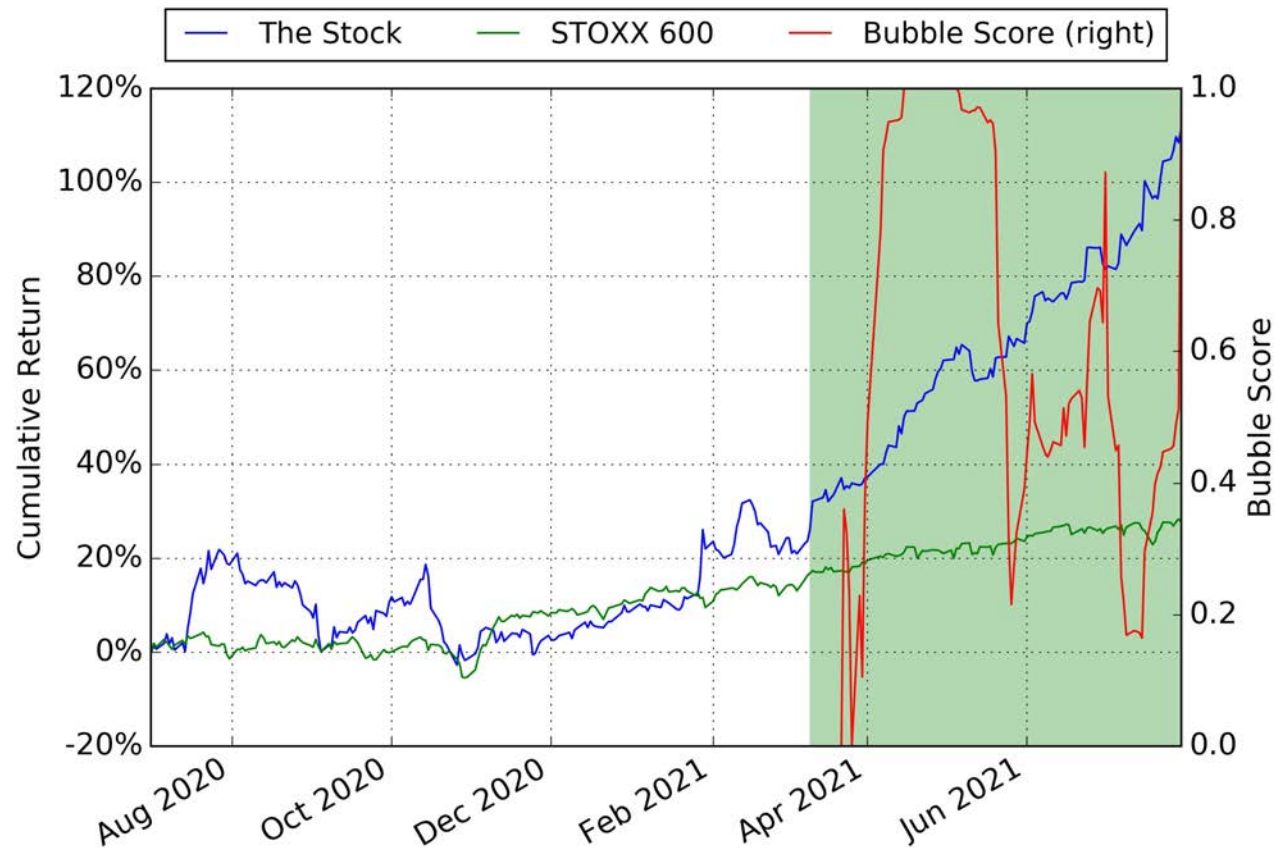
Single Stocks

Quadrant 1 stocks: strong positive bubble signals with strong fundamentals

Company Name	Country of Headquarters	GICS Industry Group Name	Yearly Return	Bubble Size	Bubble Start	Bubble Score	Value Score	Growth Score
Galenica AG	Switzerland	Health Care Equipment & Services	11.0%	16.2%	Feb-21	56.1%	63.8%	5.0%
Merck KGaA	Germany	Pharmaceuticals, Biotechnology & Life Sciences	53.5%	37.1%	Oct-20	6.1%	99.3%	73.3%
Uniper SE	Germany	Utilities	8.7%	9.0%	Feb-21	29.3%	88.2%	5.4%
Novo Nordisk A/S	Denmark	Pharmaceuticals, Biotechnology & Life Sciences	41.9%	34.3%	Dec-20	48.1%	95.4%	72.1%
Nokia Oyj	Finland	Technology Hardware & Equipment	24.3%	44.5%	Feb-21	24.7%	94.3%	6.9%
Sopra Steria Group SA	France	Software & Services	27.0%	39.1%	Nov-20	60.1%	87.2%	81.4%
Alten SA	France	Software & Services	101.1%	51.8%	Nov-20	41.2%	72.6%	89.7%
Capgemini SE	France	Software & Services	64.9%	38.6%	Feb-21	17.5%	83.8%	13.3%
Eurofins Scientific SE	Luxembourg	Pharmaceuticals, Biotechnology & Life Sciences	54.3%	54.7%	Sep-20	15.2%	75.4%	6.2%
BAE Systems PLC	United Kingdom	Capital Goods	11.3%	14.6%	Dec-20	43.3%	83.2%	15.9%
Howden Joinery Group PLC	United Kingdom	Capital Goods	72.0%	41.7%	Nov-20	11.6%	63.1%	64.5%
J Sainsbury PLC	United Kingdom	Food & Staples Retailing	54.5%	25.2%	Feb-21	58.6%	97.1%	91.5%
ConvaTec Group PLC	United Kingdom	Health Care Equipment & Services	22.7%	33.4%	Oct-20	14.1%	73.9%	81.8%
IMI PLC	United Kingdom	Capital Goods	67.4%	67.4%	Aug-20	12.5%	65.4%	14.9%
Pennon Group PLC	United Kingdom	Utilities	16.2%	34.5%	Mar-21	82.0%	76.5%	3.0%
Glanbia PLC	Ireland; Republic of	Food, Beverage & Tobacco	52.5%	65.5%	Sep-20	6.4%	75.7%	39.8%
Smurfit Kappa Group PLC	Ireland; Republic of	Materials	61.5%	31.8%	Nov-20	54.3%	66.6%	82.2%
Getinge AB	Sweden	Health Care Equipment & Services	85.2%	60.1%	Mar-21	100.0%	86.9%	10.5%
Domino's Pizza Inc	United States of America	Consumer Services	36.2%	48.4%	Mar-21	97.3%	61.4%	69.6%
Kroger Co	United States of America	Food & Staples Retailing	16.2%	19.4%	Mar-21	27.2%	80.8%	38.0%
L Brands Inc	United States of America	Retailing	191.3%	66.6%	Feb-21	92.7%	82.6%	32.3%
Target Corp	United States of America	Retailing	96.4%	46.4%	Jan-21	55.3%	69.5%	57.1%
Trimble Inc	United States of America	Technology Hardware & Equipment	76.6%	32.3%	Dec-20	12.8%	62.2%	36.1%

Single Stocks

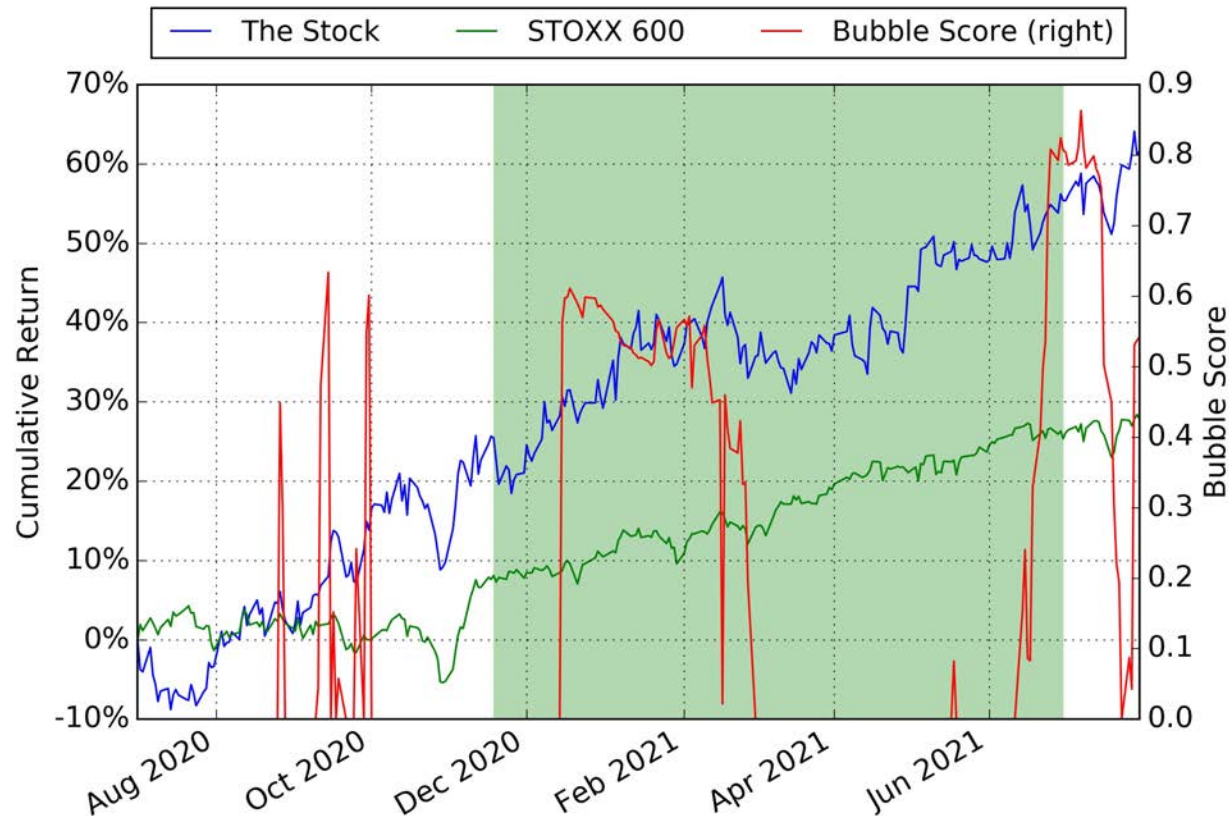
Quadrant 1 Stocks Current Month Example – Getinge AB.



- The above graph shows the one-year cumulative return of the stock in blue (left hand scale), STOXX 600 in green (left hand scale) and the calculated DS LPPLS Bubble Score in red (right hand scale). The green shaded period delineates the time interval within which the positive bubble is identified. The Bubble Score of this five-month bubble has reached 100% with a bubble size 60.1%.

Single Stocks

Quadrant 1 Stocks Last Month Example – Smurfit Kappa Group PLC.



- The figure above plots the one-year cumulative return of the stock (blue), STOXX 600 (green) and LPPLS Bubble Score (red lines on the right y-axis). The green shaded period delineates the time interval within which a strong positive bubble has been identified and reported last month. The stock price went up for another 10% in the past month, with the bubble score still running at 54.3%. This indicates that the stock has not yet reached the critical point as the strong fundamentals continue to justify a price appreciation.

Single Stocks

Quadrant 2 stocks: strong positive bubble signals with weak fundamentals

Company Name	Country of Headquarters	GICS Industry Group Name	Yearly Return	Bubble Size	Bubble Start	Bubble Score	Value Score	Growth Score
IHS Markit Ltd	United Kingdom	Commercial & Professional Services	39.9%	29.4%	Dec-20	16.9%	31.8%	51.6%
Barry Callebaut AG	Switzerland	Food, Beverage & Tobacco	21.7%	16.1%	Aug-20	8.0%	26.9%	76.9%
Givaudan SA	Switzerland	Materials	20.4%	29.8%	Feb-21	3.8%	6.7%	79.9%
Abb Ltd	Switzerland	Capital Goods	39.5%	17.2%	Mar-21	98.7%	37.8%	6.4%
Straumann Holding AG	Switzerland	Health Care Equipment & Services	81.1%	51.4%	Mar-21	35.9%	6.4%	63.5%
Lonza Group AG	Switzerland	Pharmaceuticals, Biotechnology & Life Sciences	25.3%	27.8%	Nov-20	22.2%	25.0%	82.6%
Geberit AG	Switzerland	Capital Goods	44.5%	35.3%	Feb-21	73.1%	19.0%	76.3%
VAT Group AG	Switzerland	Capital Goods	104.3%	48.7%	Mar-21	47.9%	8.0%	84.6%
Sika AG	Switzerland	Materials	56.3%	25.8%	Mar-21	22.9%	8.3%	83.6%
Belimo Holding AG	Switzerland	Capital Goods	31.3%	41.2%	Feb-21	97.6%	6.0%	23.6%
Carl Zeiss Meditec AG	Germany	Health Care Equipment & Services	98.6%	50.2%	Mar-21	98.4%	8.7%	78.5%
Nemetschek SE	Germany	Software & Services	22.1%	41.8%	Mar-21	25.4%	3.2%	85.5%
Puma SE	Germany	Consumer Durables & Apparel	52.7%	23.9%	Jan-21	59.6%	8.2%	77.8%
Symrise AG	Germany	Materials	12.1%	20.7%	Jan-21	30.0%	6.8%	90.9%
Novozymes A/S	Denmark	Materials	30.4%	39.6%	Nov-20	3.5%	28.4%	71.0%
Netcompany Group A/S	Denmark	Software & Services	69.4%	33.5%	Jan-21	45.6%	12.6%	88.3%
Bollore SE	France	Media & Entertainment	54.2%	16.1%	Feb-21	12.7%	16.6%	93.8%
L'Air Liquide Societe Anonyme pour l'Etude et l'Exploitation des Procedes George	France	Materials	5.6%	8.7%	Nov-20	46.6%	18.8%	74.6%
Remy Cointreau SA	France	Food, Beverage & Tobacco	39.7%	17.1%	Feb-21	59.4%	11.0%	34.7%
Bureau Veritas SA	France	Commercial & Professional Services	44.2%	24.9%	Feb-21	3.0%	29.6%	65.4%
Soitec SA	France	Semiconductors & Semiconductor Equipment	97.5%	59.7%	Oct-20	49.6%	38.1%	82.1%
Dassault Systemes SE	France	Software & Services	54.7%	59.2%	Oct-20	26.9%	17.4%	50.8%
Halma PLC	United Kingdom	Technology Hardware & Equipment	30.7%	21.6%	Feb-21	55.6%	19.2%	42.7%
Dechra Pharmaceuticals PLC	United Kingdom	Pharmaceuticals, Biotechnology & Life Sciences	58.8%	42.1%	Feb-21	82.9%	27.7%	60.3%
Croda International PLC	United Kingdom	Materials	43.8%	32.1%	Feb-21	98.9%	15.1%	50.4%
Spirax-Sarco Engineering PLC	United Kingdom	Capital Goods	43.6%	39.2%	Feb-21	96.3%	9.4%	49.1%
Kerry Group PLC	Ireland; Republic of	Food, Beverage & Tobacco	16.6%	20.3%	Feb-21	49.8%	26.1%	65.3%
Kingspan Group PLC	Ireland; Republic of	Capital Goods	45.4%	33.4%	Mar-21	90.4%	30.8%	46.2%
Linde PLC	United Kingdom	Materials	26.3%	26.3%	Aug-20	6.4%	22.4%	53.9%
DiaSorin SpA	Italy	Health Care Equipment & Services	12.0%	18.6%	Mar-21	36.0%	11.4%	41.7%
Recordati Industria Chimica e Farmaceutica SpA	Italy	Pharmaceuticals, Biotechnology & Life Sciences	17.2%	16.0%	Nov-20	44.7%	30.4%	80.6%
Heineken NV	Netherlands	Food, Beverage & Tobacco	27.0%	27.0%	Aug-20	9.1%	35.5%	81.0%
Koninklijke DSM NV	Netherlands	Materials	32.9%	24.1%	Nov-20	49.4%	22.3%	85.3%

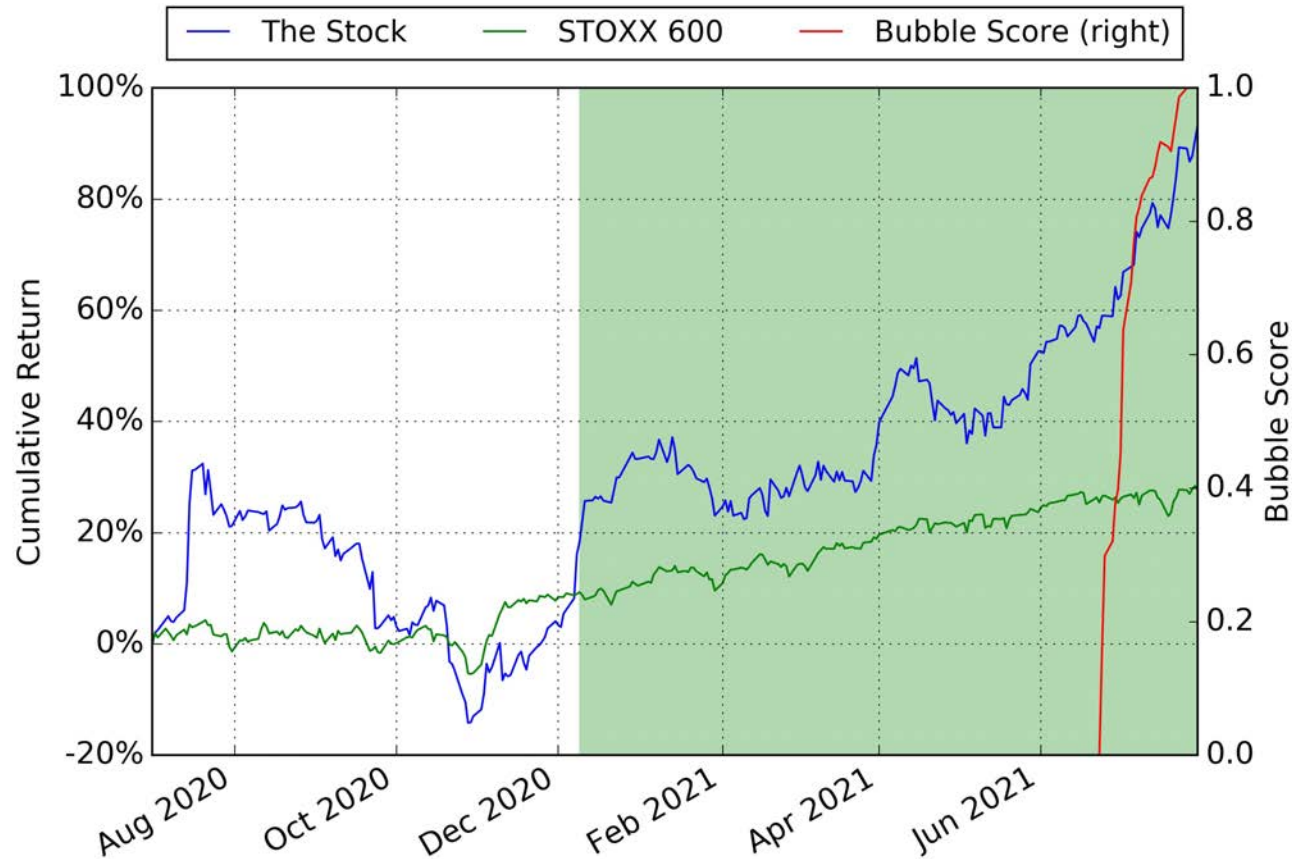
Single Stocks

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

Company Name	Country of Headquarters	GICS Industry Group Name	Yearly Return	Bubble Size	Bubble Start	Bubble Score	Value Score	Growth Score
Airbus SE	Netherlands	Capital Goods	60.6%	28.6%	Nov-20	21.1%	22.1%	9.4%
Wolters Kluwer NV	Netherlands	Commercial & Professional Services	39.2%	39.7%	Dec-20	57.7%	23.5%	40.8%
IMCD NV	Netherlands	Capital Goods	63.6%	63.6%	Aug-20	29.4%	23.1%	27.1%
Davide Campari Milano NV	Italy	Food, Beverage & Tobacco	39.4%	25.4%	Nov-20	13.6%	17.8%	82.0%
Tomra Systems ASA	Norway	Commercial & Professional Services	29.3%	30.9%	Feb-21	39.4%	3.3%	59.6%
Dino Polska SA	Poland	Food & Staples Retailing	39.9%	27.4%	Feb-21	50.0%	10.6%	72.3%
Jeronimo Martins SGPS SA	Portugal	Food & Staples Retailing	21.9%	27.5%	Jan-21	43.7%	35.8%	72.9%
Epiroc AB	Sweden	Capital Goods	60.2%	46.6%	Nov-20	25.8%	32.5%	81.9%
Beijer Ref AB (publ)	Sweden	Capital Goods	56.1%	58.5%	Dec-20	100.0%	6.9%	71.9%
Nibe Industrier AB	Sweden	Capital Goods	82.9%	77.3%	Sep-20	9.6%	20.1%	73.9%
Agilent Technologies Inc	United States of America	Pharmaceuticals, Biotechnology & Life Sciences	57.7%	23.7%	Jan-21	25.7%	35.3%	55.2%
Alphabet Inc	United States of America	Media & Entertainment	80.8%	30.6%	Feb-21	75.4%	24.7%	22.1%
Broadridge Financial Solutions Inc	United States of America	Software & Services	27.0%	29.5%	Oct-20	5.8%	26.0%	63.6%
Copart Inc	United States of America	Commercial & Professional Services	48.7%	30.6%	Feb-21	60.2%	7.9%	34.1%
Edwards Lifesciences Corp	United States of America	Health Care Equipment & Services	48.2%	34.6%	Jan-21	57.8%	9.2%	75.7%
Facebook Inc	United States of America	Media & Entertainment	35.5%	27.8%	Nov-20	22.7%	24.6%	32.5%
Fortinet Inc	United States of America	Software & Services	114.6%	86.7%	Dec-20	58.4%	37.4%	55.9%
Gartner Inc	United States of America	Software & Services	99.6%	88.0%	Nov-20	37.7%	19.9%	20.0%
IDEXX Laboratories Inc	United States of America	Health Care Equipment & Services	79.9%	36.2%	Mar-21	18.8%	3.6%	45.9%
International Flavors & Fragrances Inc	United States of America	Materials	15.4%	11.1%	Feb-21	1.6%	30.6%	49.8%
Intuitive Surgical Inc	United States of America	Health Care Equipment & Services	45.2%	33.2%	Jan-21	42.6%	6.3%	56.6%
Lululemon Athletica Inc	Canada	Consumer Durables & Apparel	16.2%	35.2%	Mar-21	91.7%	3.5%	60.4%
Mettler-Toledo International Inc	United States of America	Pharmaceuticals, Biotechnology & Life Sciences	55.8%	39.1%	Mar-21	20.2%	12.3%	55.3%
Republic Services Inc	United States of America	Commercial & Professional Services	30.2%	30.2%	Aug-20	15.8%	36.2%	38.1%
Rockwell Automation Inc	United States of America	Capital Goods	34.1%	25.8%	Jan-21	90.5%	38.6%	53.2%
Roper Technologies Inc	United States of America	Capital Goods	11.3%	25.1%	Jan-21	43.8%	23.0%	64.2%
Stryker Corp	United States of America	Health Care Equipment & Services	44.4%	15.6%	Nov-20	32.8%	39.5%	45.8%
Visa Inc	United States of America	Software & Services	25.2%	18.0%	Jan-21	59.8%	16.2%	65.1%
Waters Corp	United States of America	Pharmaceuticals, Biotechnology & Life Sciences	83.3%	46.7%	Mar-21	68.5%	29.4%	30.4%
West Pharmaceutical Services Inc	United States of America	Health Care Equipment & Services	54.6%	53.6%	Dec-20	37.1%	6.2%	53.3%
Xylem Inc	United States of America	Capital Goods	59.3%	28.2%	Feb-21	89.2%	23.8%	47.3%
Zoetis Inc	United States of America	Pharmaceuticals, Biotechnology & Life Sciences	28.2%	26.9%	Jan-21	41.5%	10.4%	62.5%

Single Stocks

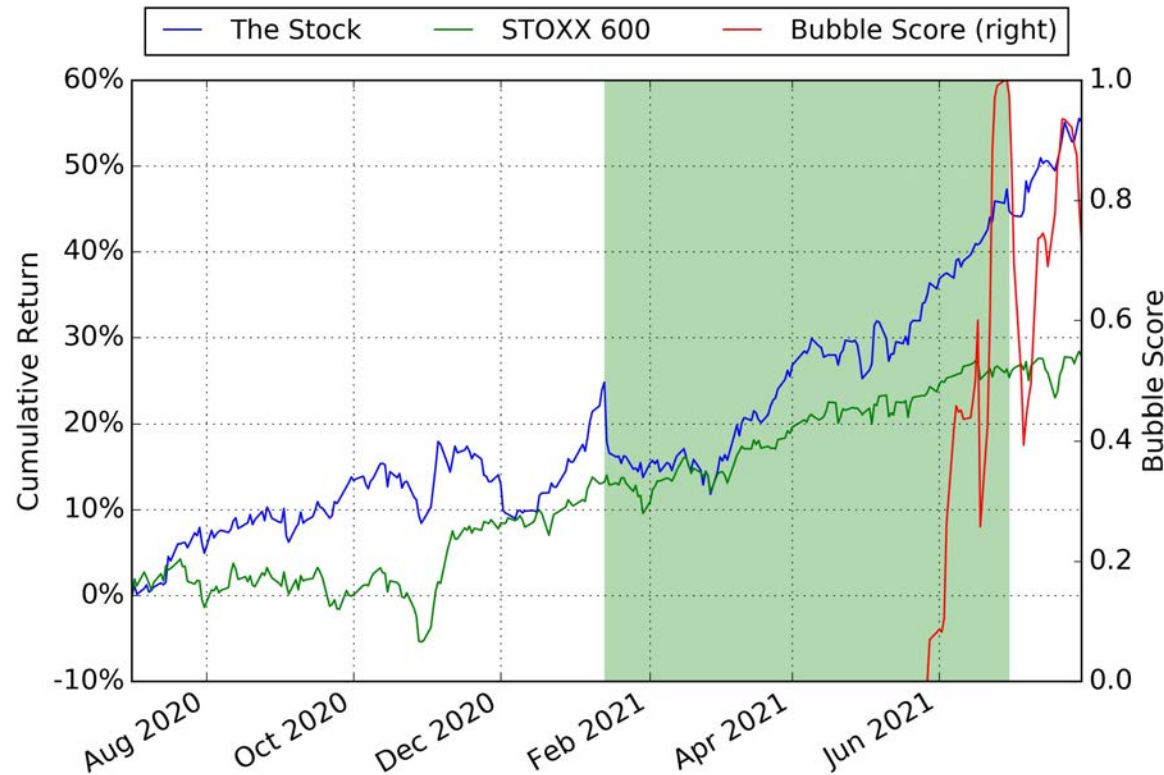
Quadrant 2 Stocks Current Month Example – Beijer Ref AB (publ).



- The above graph shows the one-year cumulative return of the stock in blue (left hand scale), STOXX 600 in green (left hand scale) and the calculated DS LPPLS Bubble Score in red (right hand scale). The green shaded period delineates the time interval within which the positive bubble is identified. The Bubble Score of this eight-month bubble has reached 100% with a bubble size 58.5%. The strong positive bubble signal and weak fundamentals may indicate a high probability of correction in the future.

Single Stocks

Quadrant 2 Stocks Last Month Example – Geberit AG.



The figure above plots the one-year cumulative return of the stock (blue), STOXX 600 (green) and LPPLS Bubble Score (red lines on the right y-axis). The green shaded period delineates the time interval within which a strong positive bubble has been identified and reported last month. The stock price continued its upward trend in the past month with its bubble score remaining positive at 73.1%. This means that the signal last month may be a false positive or a transition to a larger bubble. The risk of a significant correction of this stock is still prominent and one should remain cautious about it.

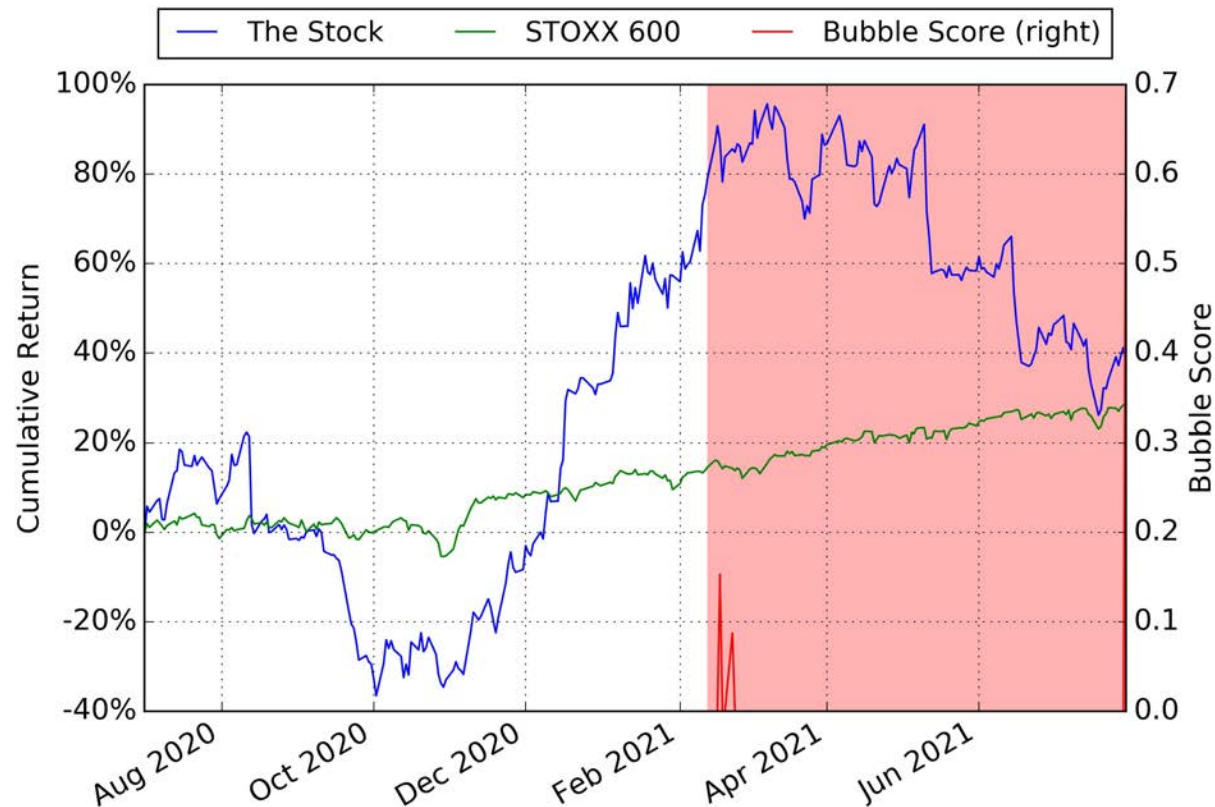
Single Stocks

Quadrant 3 stocks: strong negative bubble signals with weak fundamentals

Company Name	Country of Headquarters	GICS Industry Group Name	Yearly Return	Bubble Size	Bubble Start	Bubble Score	Value Score	Growth Score
MorphoSys AG	Germany	Pharmaceuticals, Biotechnology & Life Sciences	-55.7%	-48.5%	Nov-20	-22.8%	5.1%	1.0%
thyssenkrupp AG	Germany	Materials	13.2%	-26.3%	Feb-21	-68.5%	29.1%	0.1%
Siemens Gamesa Renewable Energy SA	Spain	Capital Goods	13.0%	-28.2%	Dec-20	-31.9%	39.6%	4.9%
Delta Air Lines Inc	United States of America	Transportation	36.0%	-12.6%	Feb-21	-15.2%	22.8%	28.8%
Fleetcor Technologies Inc	United States of America	Software & Services	9.2%	-9.0%	Feb-21	-34.5%	39.3%	51.5%
Pinduoduo Inc	China	Retailing	4.7%	-44.9%	Dec-20	-21.7%	0.4%	71.4%
Vertex Pharmaceuticals Inc	United States of America	Pharmaceuticals, Biotechnology & Life Sciences	-25.0%	-6.3%	Nov-20	-1.5%	21.9%	35.3%

Single Stocks

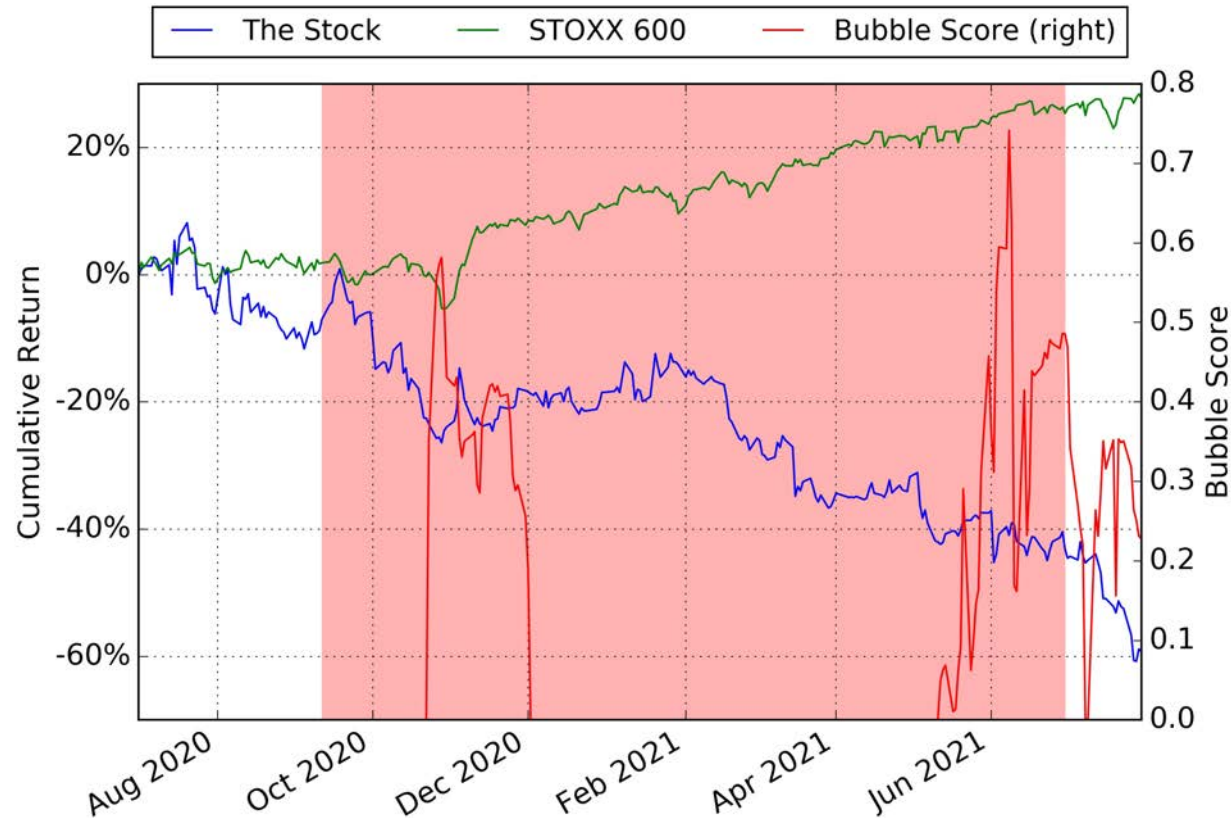
Quadrant 3 Stocks Current Month Example – thyssenkrupp AG.



- The above graph shows the one-year cumulative return of the stock in blue (left hand scale), STOXX 600 in green (left hand scale) and the calculated DS LPPLS Bubble Score in red (right hand scale). The red shaded period delineates the time interval within which the negative bubble is identified. The Bubble Score of this six-month bubble has reached 68.5% with a bubble size -26.3%.

Single Stocks

Quadrant 3 Stocks Last Month Example – MorphoSys AG.



- The figure above plots the one-year cumulative return of the stock (blue), STOXX 600 (green) and LPPLS Bubble Score (red line on the right y-axis). The red shaded period delineates the time interval within which the strong negative bubble was identified and reported last month. The stock price continued and accelerated its downward trend in the past month with still significant bubble score larger than 20%. Our bubble indicators in the last month may be a false positive signal and a transition to a larger bubble, which is happening now. We expect a rebound in the future due to the over-selling of this stock., but not imminently due to the weak fundamentals,

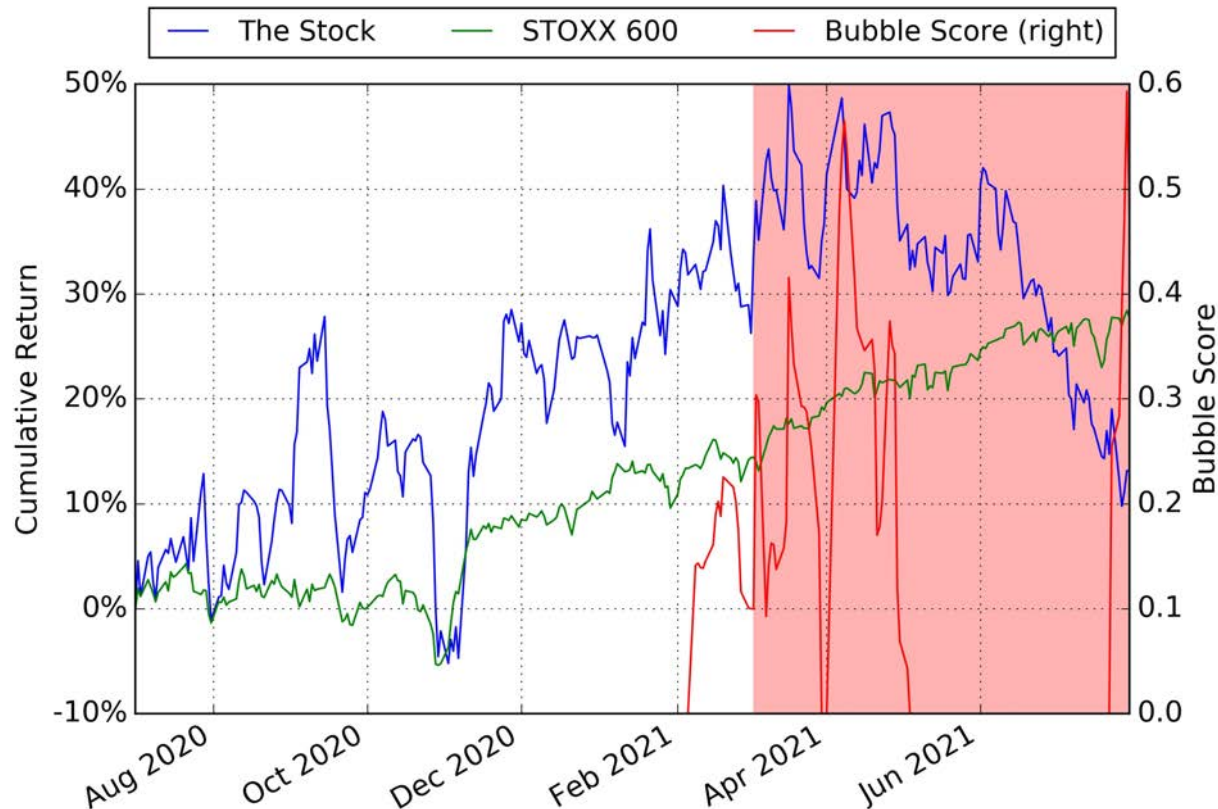
Single Stocks

Quadrant 4 stocks: strong negative bubble signals with strong fundamentals

Company Name	Country of Headquarters	GIICS Industry Group Name	Yearly Return	Bubble Size	Bubble Start	Bubble Score	Value Score	Growth Score
Galapagos NV	Belgium	Pharmaceuticals, Biotechnology & Life Sciences	-66.9%	-35.3%	Dec-20	-20.8%	64.2%	98.2%
Prosiebensat 1 Media SE	Germany	Media & Entertainment	64.8%	-9.1%	Mar-21	-65.9%	78.1%	57.7%
Atos SE	France	Software & Services	-44.8%	-45.5%	Aug-20	-19.6%	98.0%	93.6%
Faurecia SE	France	Automobiles & Components	7.4%	-18.5%	Mar-21	-47.7%	87.1%	98.6%
Informa PLC	United Kingdom	Media & Entertainment	23.6%	-10.8%	Feb-21	-41.5%	65.0%	34.0%
AT&T Inc	United States of America	Telecommunication Services	-7.1%	-5.3%	Mar-21	-3.0%	81.4%	35.8%
Micron Technology Inc	United States of America	Semiconductors & Semiconductor Equipment	57.8%	-11.9%	Feb-21	-12.8%	98.9%	27.5%

Single Stocks

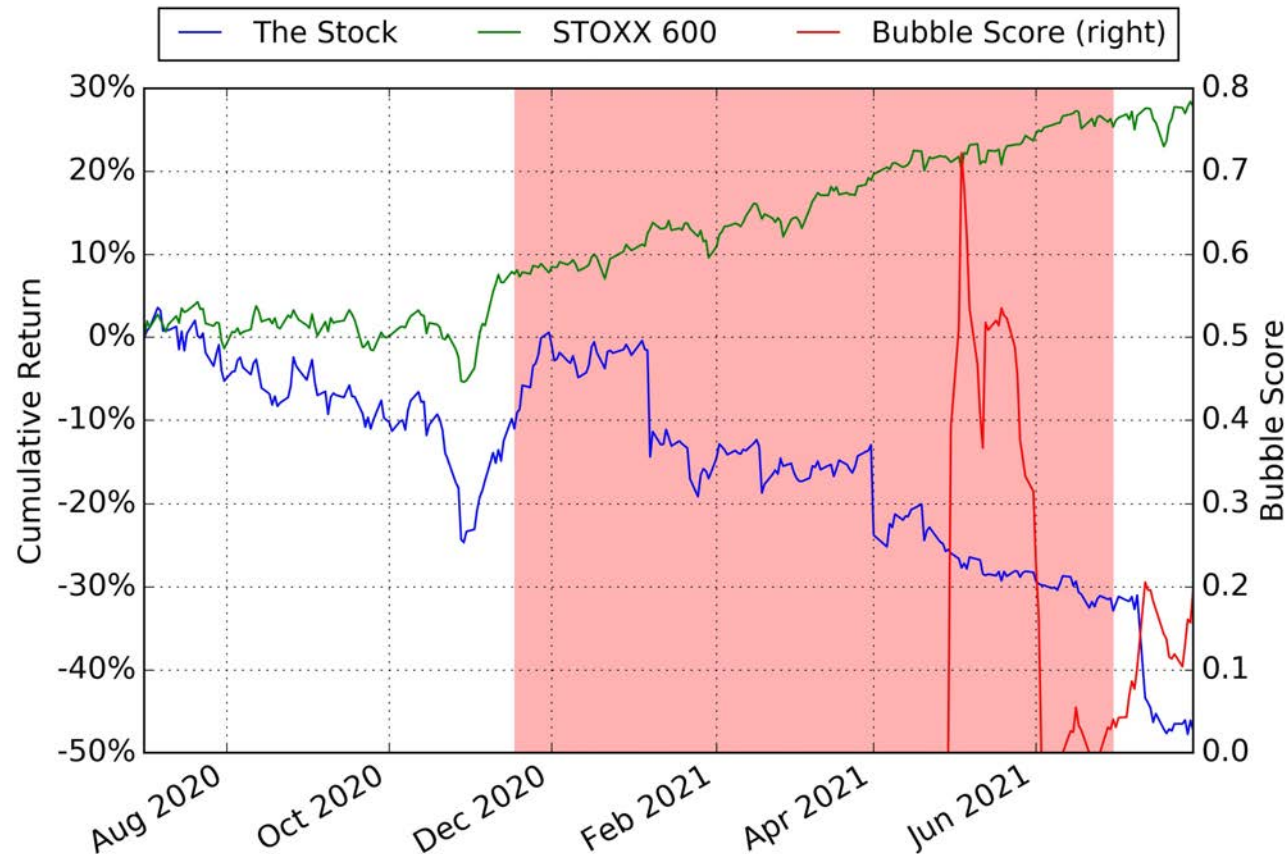
Quadrant 4 Stocks Current Month Example – Faurecia SE.



- The above graph shows the one-year cumulative return of the stock in blue (left hand scale), STOXX 600 in green (left hand scale) and the calculated DS LPPLS Bubble Score in red (right hand scale). The red shaded period delineates the time interval within which the strong negative bubble is identified. The Bubble Score of this five-month bubble has reached 47.7% with a negative bubble size -18.5%. We expect a rebound in the future when the negative bubble is mature, given our diagnostic of a negative bubble signal with strong fundamentals, calling for a contrarian buyer position.

Single Stocks

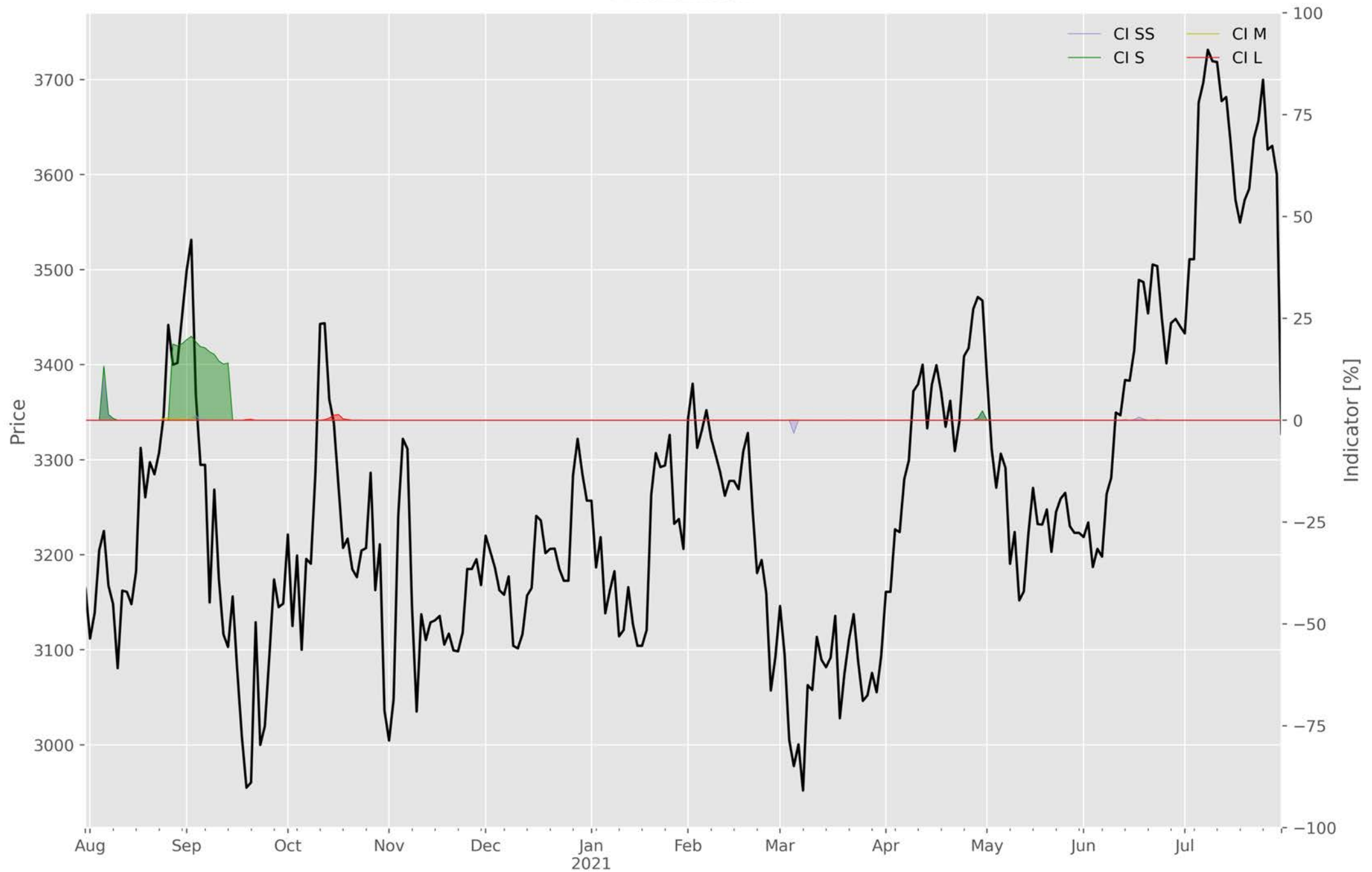
Quadrant 4 Stocks Last Month Example – Atos SE.



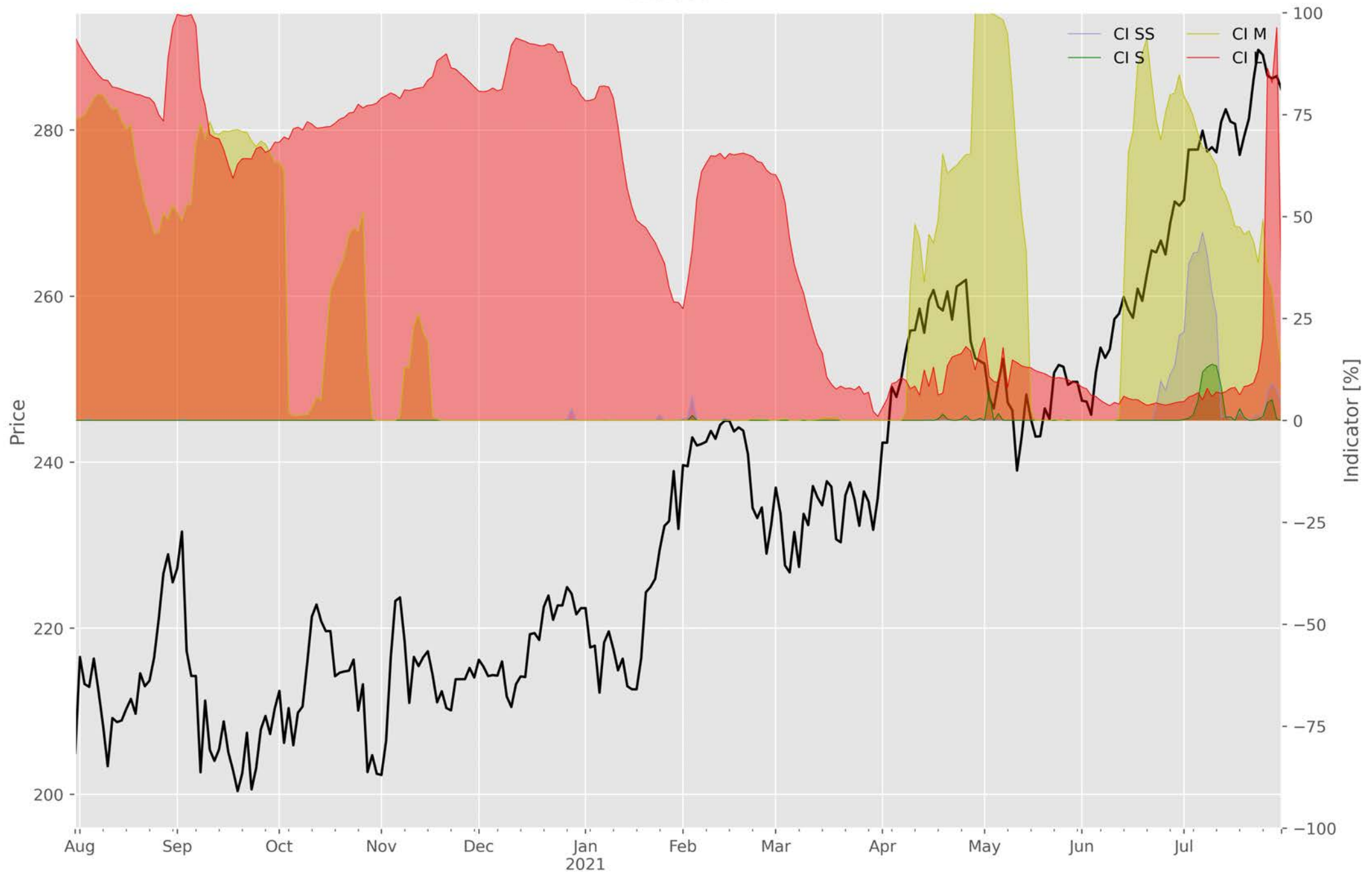
- The figure above plots the one-year cumulative return of the stock (blue), STOXX 600 (green) and LPPLS Bubble Score (red line on the right y-axis). The red shaded period delineates the time interval within which the strong negative bubble was identified and reported last month. The stock price plummeted by more than 20% due to an exogenous shock: the company cuts its 2021 margin targets to 6% compared with a previous target of between 9.4% and 9.8%.

Appendix

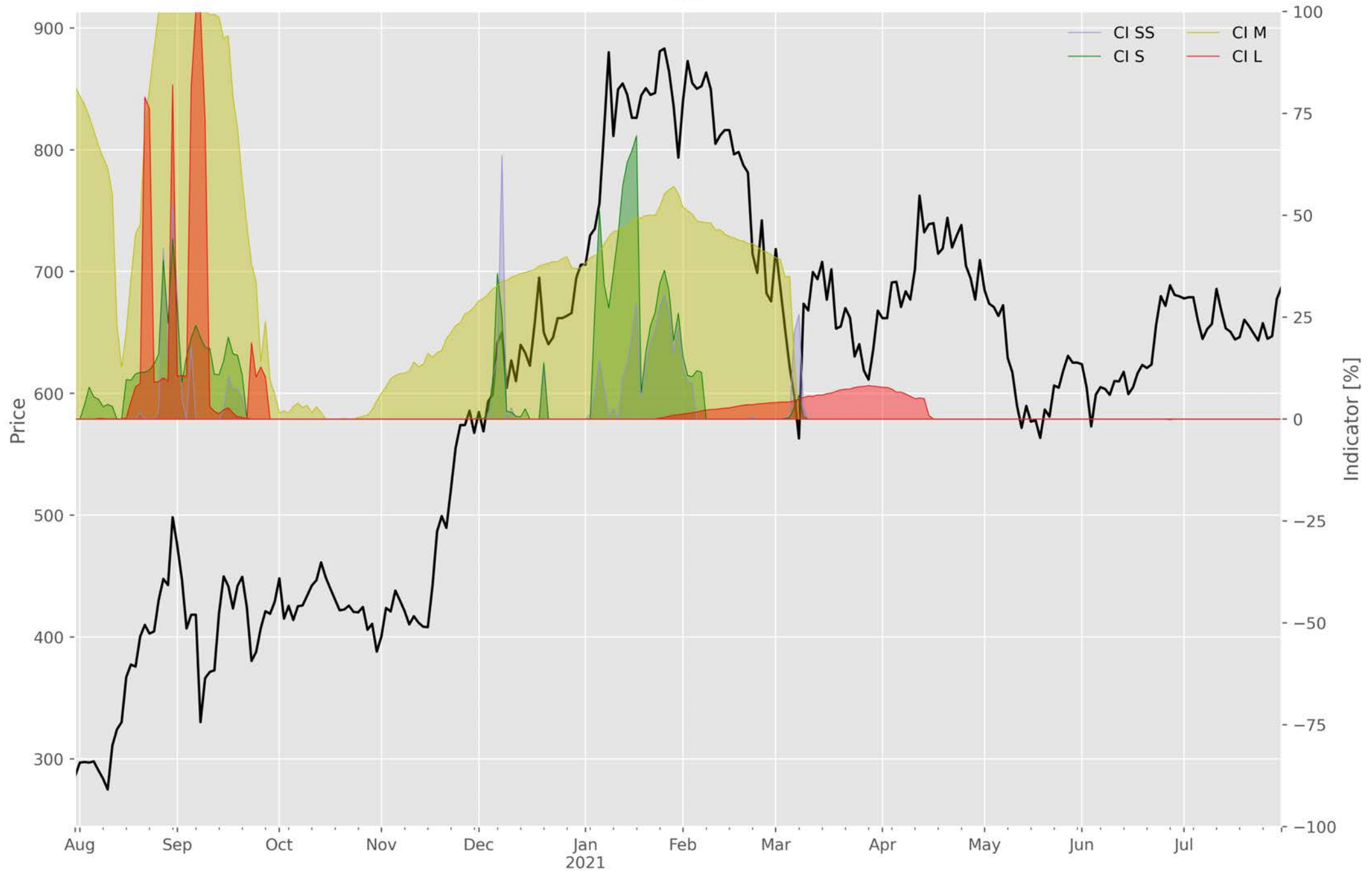
Amazon.Com



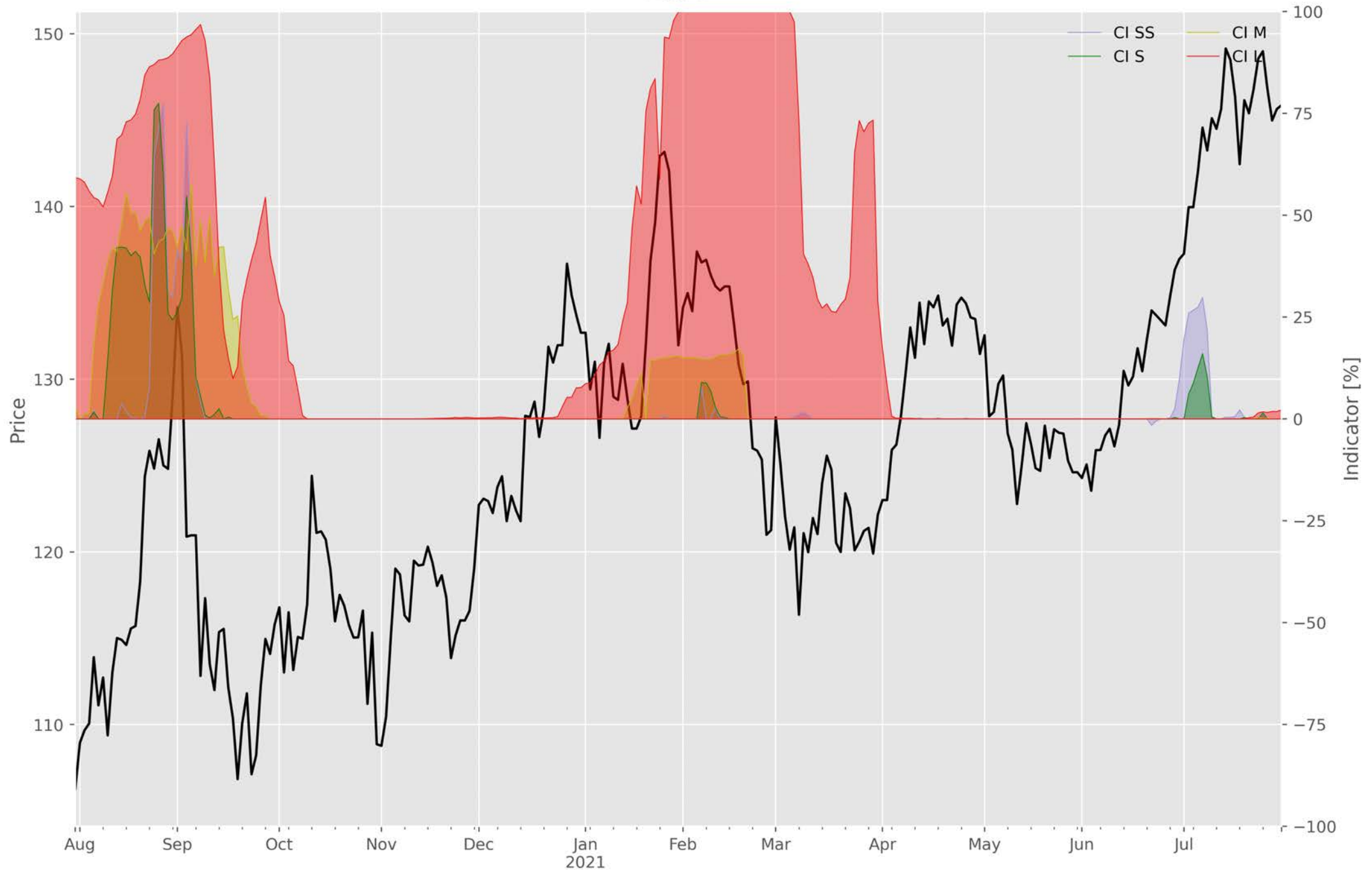
Microsoft



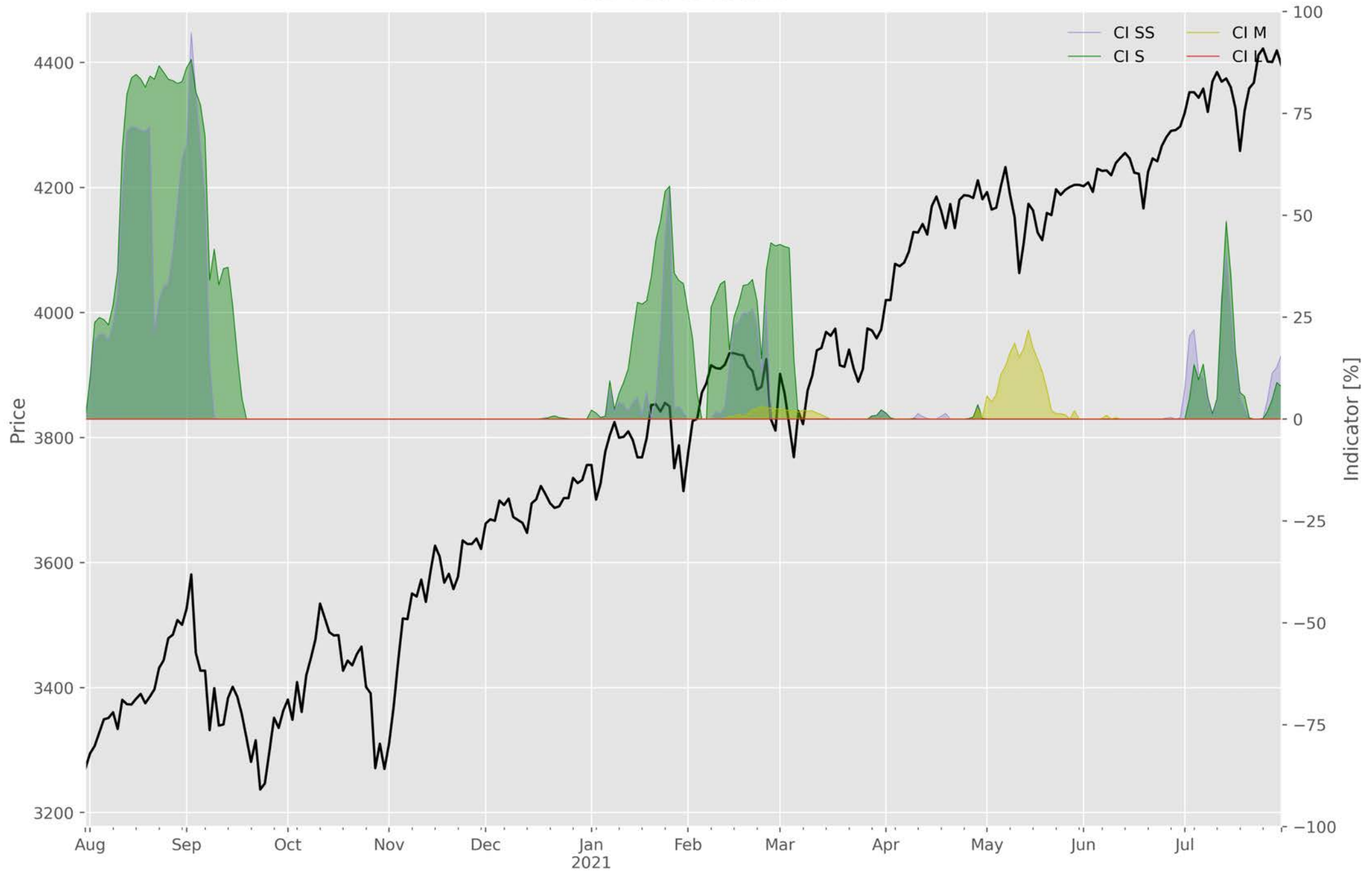
Tesla



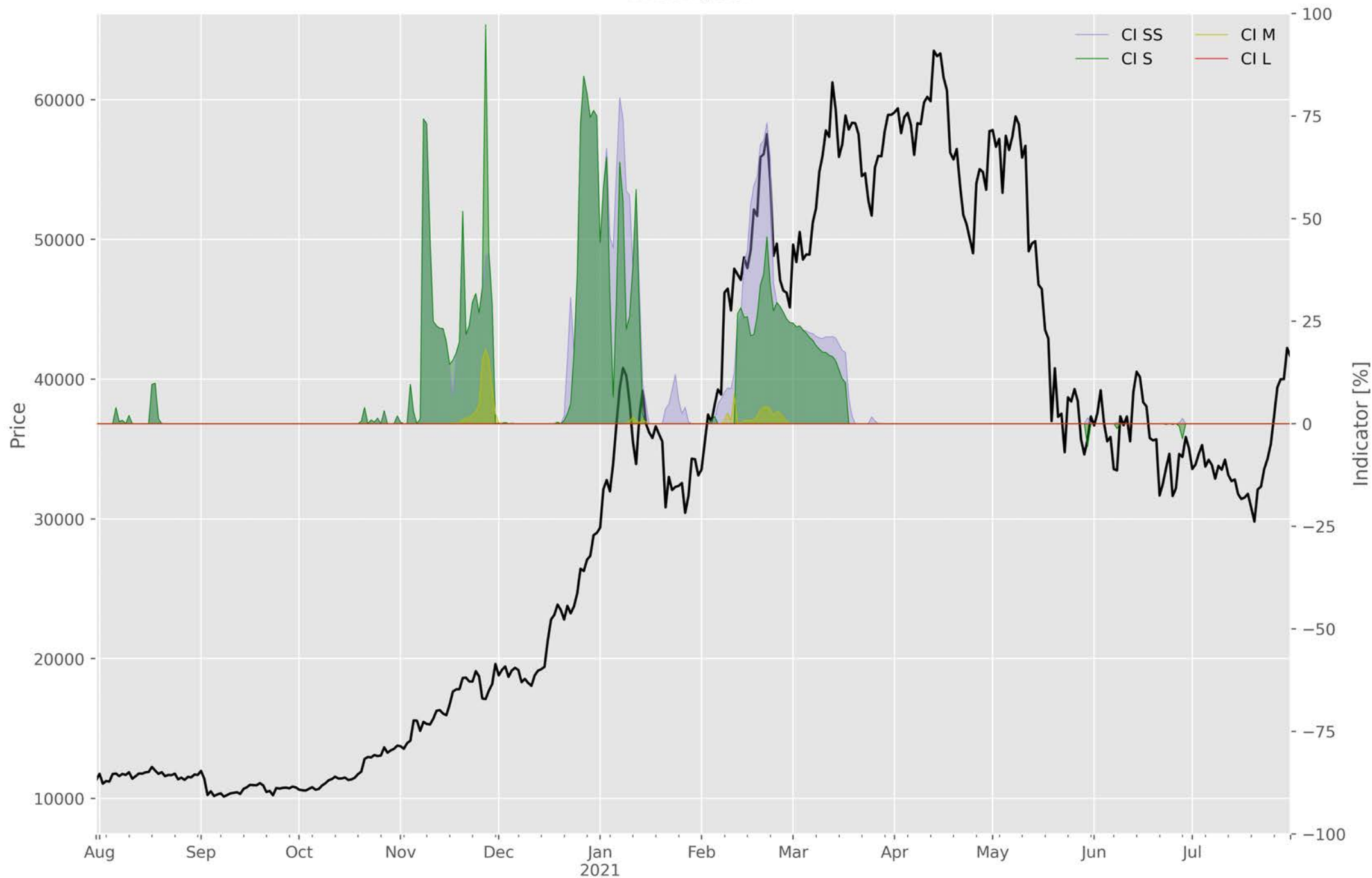
Apple



S&P 500 Composite



Bitcoin/USD



More Information

- ▶ Visit the **Financial Crisis Observatory** for more information

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

- ▶ **Contacts ETH Zurich**

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